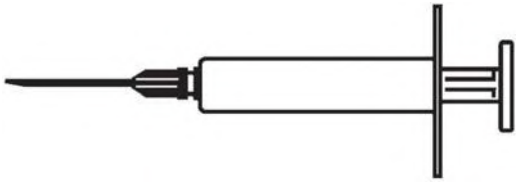
Competency Based Questions from OECD's PISA Assessments Programme

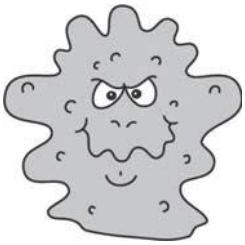
SUB: ENGLISH **CLASS: X**

Q1: ACOL VOLUNTARY FLU IMMUNISATION PROGRAM

As you are no doubt aware the flu can strike rapidly and extensively during winter. It can leave its victims ill for weeks.



The best way to fight the virus is to have a fit and healthy body. Daily exercise and a diet including plenty of fruit and vegetables are highly recommended to assist the immune system to fight this invading virus.



ACOL has decided to offer staff the opportunity to be immunized against the flu as an additional way to prevent this insidious virus from spreading amongst us. ACOL has arranged for a nurse to administer the immunizations at ACOL, during a half-day session in work hours in the week of May 17. This program is free and available
to all members of staff.

Participation is voluntary. Staff taking up the option will be asked to
sign a consent form indicating that they do not have any allergies,

Medical advice indicates that the immunisation does not produce influenza. However, it may cause some side effect such as fatigue, mild fever and tenderness of arm.

Who should be immunised?

Anyone interested in being protected against the virus.

This immunisation is especially recommended for people over the age of 65. But regardless of age, ANYONE who has a chronic debilitating disease, especially cardiac, pulmonary, bronchial or diabetic conditions.

In an office environment ALL staff are at risk of catching the flu.

Who should not be immunised?

Individuals hypersensitive to eggs, people suffering from an acute feverish illness and pregnant women.

Check with your doctor if you are taking any medication or have had a previous reaction to a flu injection.

If you would like to be immunised in the week of May 17 please advise the personnel officer, Fiona McSweeney, by Friday May 7. The date and time will be set according to the availability of the nurse, the number of participants and the time convenient for most staff. If you would like to be immunised for this winter but cannot attend at the arranged time please let Fiona know. An alternative session may be arranged if there are sufficient numbers.

For further information please contact Fiona on ext. 5577.

Good Health

Fiona McSweeney, the personnel officer at a company called ACOL, prepared the information sheet on the previous page for ACOL staff. Refer to the information sheet to answer the questions which follow.

QUESTION 1.1

Which one of the following describes a feaTURE of the ACOL FLU IMMUNISAtion program?

A. Daily exercise classes will be RUN DURING the winter.

B. IMMUNIZations will be given DURING working HOURS.

C. A small BONUS will be offered to participants.

D. A doctor will give the injections.

QUESTION 1.2

We can talk ABOUT the *content* of a piece of writing (what it says). We can talk ABOUT its *style* (the way it is presented).

Fiona wanted the *style* of this information sheet to be friendly and ENCOURAGING. Do YOU think she SUCCEEDED?

Explain YOUR answer by referring in detail to the LAYOUT, style of writing, PICTURES or other graphics.

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.....

.....

QUESTION 1.3

This information sheet SUGGESTS that if YOU want to protect YOURSELF against the FLU VIRUS, a FLU injection is

A. more effective than exercise and a healthy diet, BUT more risky.

B. a good idea, BUT not a SUBSTITUTE for exercise and a healthy diet.

C. as effective as exercise and a healthy diet, and less TROUBLESOME.

D. not worth considering if YOU have plenty of exercise and a healthy diet.

QUESTION 1.4

Part of the information sheet says:

Who should be immunised?

Anyone interested in being protected against the virus.

After Fiona had circULAted the information sheet, a COLLEAGUE told her that she SHOULD have left OUT the words "Anyone interested in being protected against the VIRUS" BECAUSE they were misleading.

Do YOU agree that these words are misleading and

SHOULD have been left OUT? Explain YOUR answer.

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QUESTION 1.5

According to the information sheet, which one of these staff members SHOULD contact Fiona?

A. Steve from the store, who does not want to be IMMUNISED BECAUSE he WOULD rather rely on his naTURAL IMMUNITY.

B. JULIE from sales, who wants to know if the IMMUNISAtion program is COMPULSORy.

C. Alice from the mailroom who WOULD like to be IMMUNIZED this winter BUT is having a baby in two months.

D. ftichael from ACCOUNTS who WOULD like to be IMMUNISED BUT will be on leave in the week of ftay 17.

Q2:

I'm simmering with anger as the school wall is cleaned and repainted for the fourth time to get rid of graffiti. Creativity is admirable but people should find ways to express themselves that do not inflict extra costs upon society.

Why do you spoil the reputation of young people by painting graffiti where it's forbidden? Professional artists do not hang their paintings in the streets, do they? Instead they seek funding and gain fame through legal exhibitions.

In my opinion buildings, fences and park benches are works of art in themselves. It's really pathetic to spoil this architecture with graffiti and what's more, the method destroys the ozone layer. Really, I can't understand why these criminal artists bother as their "artistic works" are just removed from sight over and over again.

Helga

There is no accounting for taste. Society is full of communication and advertising. Company logos, shop names. Large intrusive posters on the streets. Are they acceptable? Yes, mostly. Is graffiti acceptable? Some people say yes, some no.

Who pays the price for graffiti? Who is ultimately paying the price for advertisements? Correct. The consumer.

Have the people who put up billboards asked your permission? No. Should graffiti painters do so then? Isn't it all just a question of communication – your own name, the names of gangs and large works of art in the street?

Think about the striped and chequered clothes that appeared in the stores a few years ago. And ski wear. The patterns and colours were stolen directly from the flowery concrete walls. It's quite amusing that these patterns and colours are accepted and admired but that graffiti in the same style is considered dreadful.

Times are hard for art.

Sophia

The two letters above come from the Internet and are about graffiti. Graffiti is illegal painting and writing on walls and elsewhere. Refer to the letters to answer the questions below.

QUESTION 2.1

The PURPOSE of each of these letters is to

A. explain what graffiti is.

B. present an opinion ABOUT graffiti.

C. demonstrate the POPULARITY of graffiti.

D. tell people how MUCH is spent removing graffiti.

QUESTION 2.2

Why does Sophia refer to advertising?

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QUESTION 2.3

Which of the two letter writers do YOU agree with? Explain YOUR answer by USING *your own words* to refer to what is said in one or both of the letters.

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QUESTION 2.4

We can talk ABOUT *what* a letter says (its content).

We can talk ABOUT *the way* a letter is written (its style).

Regardless of which letter YOU agree with, in YOUR opinion, which do YOU think is the better letter? Explain YOUR answer by referring to *the way* one or both letters are written.

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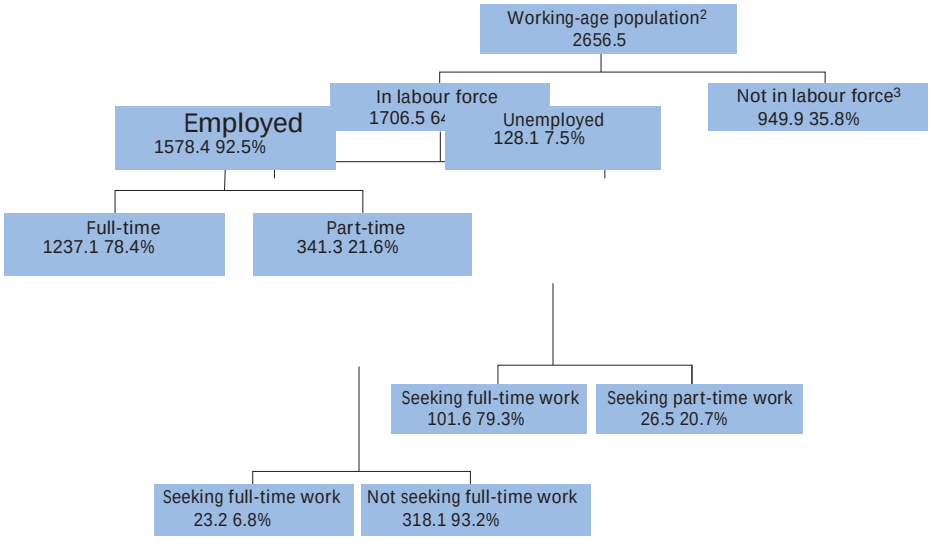
Q3: The tree diagram below shows the structure of a country's labour force or "working-age population". The total population of the country in 1995 was about 3.4 million.

The Labour Force Structure year ended 31 March 1995 (000s)[1]



1. Numbers of people are given in thousands (000s).
2. The working-age population is defined as people between the ages of 15 and 65.
3. People "Not in labour force" are those not actively seeking work and/or not available for work.

Source: D. Miller, Form 6 Economics, ESA Publications, Box 9453, New market, Auckland, New Zealand, p. 64.

Use the information about a country's labour force shown above to answer the questions

below.

QUESTION 3.1

What are the two main GROUPS into which the working-age POPULAtion is divided?

A. Employed and UNEMPLOYED.

B. Of working age and not of working age.

C. FULL-TIME workers and part-time workers.

D. In the LABOUR force and not in the LABOUR force.

QUESTION 3.2

How many people of working age were not in the LABOUR force? (Write the *number* of people, not the percentage.)

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QUESTION 4.3

In which part of the tree diagram, if any, WOULD each of the people listed in the table below be INCLUDED? Show YOUR answer by placing a cross in the correct box in the table.

The first one has been done for YOU.

	"In LABOUR force: employed"	"In LABOUR force: UNEM-ployed"	"Not in LABOUR force"	Not INCLUDED in any category
A part-time waiter, aged 35	☒	☐	☐	☐
A BUSINESS woman, aged 43, who works a sixty-HOUR week	☐	☐	☐	☐
A FULL-TIME STUDENT, aged 21	☐	☐	☐	☐
A man, aged 28, who recently sold his shop and is looking for work	☐	☐	☐	☐
A woman, aged 55, who has never worked or wanted to work OUTSIDE the home	☐	☐	☐	☐
A grandmother, aged 80, who still works a few HOURS a day at the family's market stall	☐	☐	☐	☐

QUESTION 3.4

SUPPOSE that information ABOUT the LABOUR force was presented in a tree diagram like this every year.

Listed below are FOUR FEATURES of the tree diagram. Show whether or not YOU WOULD expect these FEATURES to change from year to year, by circling either "Change" or "No change". The first one has been done for YOU.

FeaTURES of Tree Diagram	Answer
The labels in each box (*e.g.* "In LABOUR force")	Change / No change
The percentages (*e.g.* "64.2%")	Change / No change
The NUMBERS (*e.g.* "2656.5")	Change / No change
The footnotes UNDER the tree diagram	Change / No change

QUESTION 3.5

The information ABOUT the LABOUR force STRUCTURE is presented as a tree diagram, BUT it COULD have been presented in a NUMBER of other ways, SUCH as a written description, a pie chart, a graph or a table.

The tree diagram was probably chosen BECAUSE it is especially USEFUL for showing

A. changes over time.

B. the size of the COUNTRY's total POPULAtion.

C. categories within each GROUP.

D. the size of each GROUP.

Q4:

Feel good in your runners

For 14 years the Sports Medicine Centre of Lyon (France) has been studying the injuries of young sports players and sports professionals. The study has established that the best course is prevention 1. and good shoes.

Knocks, falls, wear and tear...

Eighteen per cent of sports___ players aged 8 to 12 already have heel injuries. The cartilage of a footballer's ankle does not respond well to shocks, and 25% of professionals have discovered for themselves that it is an especially weak point. The cartilage of the delicate knee joint can also be irreparably damaged and if care is not taken right from childhood (10–12 years of age), this can cause premature osteoarthritis. The hip does not escape damage either and, particularly when tired,

problems, which may even affect the knee.

It must also provide players with good **stability** so that they do not slip on a wet ground or skid on a surface that is too dry.

Finally, it must **absorb shocks**, especially those suffered by volleyball and basketball players who are constantly jumping.

Dry feet

To avoid minor but painful conditions such as blisters or even splits or athlete's foot (fungal infections), the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in. The ideal material for this is leather, which can be water- proofed to prevent the shoe from getting soaked the first time it rains.

Source: Revue ID (16) 1-15 June 1997.

Use the article on the previous page to answer the questions below.

QUESTION 4.1

What does the AUTHOR intend to show in this text?

A. **That the QUALITY of many sports shoes has greatly improved.**

B. **That it is best not to play football if YOU are UNDER 12 years of age.**

C. **That YOUNG people are SUFFering more and more INJURIES DUE to their poor physical condition.**

D. **That it is very important for YOUNG sports players to wear good sports shoes.**

QUESTION 4.2

According to the article, why SHOULD sports shoes not be too rigid?

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QUESTION 4.3

One part of the article says, "A good sports shoe SHOULD meet FOUR criteria."

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QUESTION 4.4

Look at this sentence from near the end of the article. It is presented here in two parts:

"To avoid minor but painful conditions such as blisters or even splits or athlete's foot (fungal infections),…"	**(first part)**
"…the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in."	**(second part)**

What is the relationship between the first and second parts of the sentence? The second part

A. contradicts the first part.

B. repeats the first part.

C. ILLUSTRAtes the problem described in the first part.

D. gives the SOLUTION to the problem described in the first part.

Q5:

THE GIFT

How many days, she wondered, had she sat like this, watching the cold brown water inch up the dissolving bluff. She could just faintly remember the beginning of the rain, driving in across the swamp from the south and beating against the shell of her house. Then the river itself started rising, slowly at first until at last it paused to turn back. From

5 hour to hour it slithered up creeks and ditches and poured over low places. In the night, while she slept, it claimed the road and surrounded her so that she sat alone, her boat

gone, the house like a piece of drift lodged on its bluff. Now even against the tarred planks of the supports the waters touched. And still they rose.

As far as she could see, to the treetops where the opposite banks had been, the swamp

10 was an empty sea, awash with sheets of rain, the river lost somewhere in its vastness. Her house with its boat bottom had been built to ride just such a flood, if one ever came, but now it was old. Maybe the boards underneath were partly rotted away. Maybe the cable mooring the house to the great live oak would snap loose and let her go turning downstream, the way her boat had gone.

15 No one could come now. She could cry out but it would be no use, no one would hear. Down the length and breadth of the swamp others were fighting to save what little they could, maybe even their lives. She had seen a whole house go floating by, so quiet she was reminded of sitting

at a funeral. She thought when she saw it she knew whose house it was. It had been bad seeing it drift by, but the owners must have escaped to higher ground. Later, with the rain and darkness pressing in, she had heard a panther scream upriver.

Now the house seemed to shudder around her like something alive. She reached out to catch a lamp as it tilted off the table by her bed and put it between her feet to hold it steady. Then creaking and groaning with effort the house struggled up from the clay, floated free, bobbing like a cork and swung out slowly with the pull of the river. She gripped the edge of the bed. Swaying from side to side, the house moved to the length of its mooring. There was a jolt and a complaining of old timbers and then a pause. Slowly the current released it and let it swing back, rasping across its resting place. She caught her breath and sat for a long time feeling the slow pendulous sweeps. The dark sifted down through the incessant rain, and, head on arm, she slept holding on to the bed.

Sometime in the night the cry awoke her, a sound so anguished she was on her feet before she was awake. In the dark she stumbled against the bed. It came from out there, from the river. She could hear something moving, something large that made a dredging, sweeping sound. It could be another house. Then it hit, not head on but glancing and sliding down the length of her house. It was a tree. She listened as the branches and leaves cleared themselves and went on downstream, leaving only the rain and the lappings of the flood, sounds so constant now that they seemed a part of the silence. Huddled on the bed, she was almost asleep again when another cry sounded, this time so close it could have been in the room. Staring into the dark, she eased back on the bed until her hand caught the cold shape of the rifle. Then crouched on the pillow, she cradled the gun across her knees. “Who’s there?” she called.

The answer was a repeated cry, but less shrill, tired sounding, then the empty silence closing in. She drew back against the bed. Whatever was there she could hear it moving about on the porch. Planks creaked and she could distinguish the sounds of objects being knocked over. There was a scratching on the wall as if it would tear its way in. She knew now what it was, a big cat, deposited by the uprooted tree that had passed her. It had come with the flood, a gift.

Unconsciously she pressed her hand against her face and along her tightened throat. The rifle rocked across her knees. She had never seen a panther in her life. She had heard about them from others and heard their cries, like suffering, in the distance. The cat was scratching on the wall again, rattling the window by the door. As long as she guarded the window and kept the cat hemmed in by the wall and water, caged, she would be all right. Outside, the animal paused to rake his claws across the rusted outer screen. Now and then, it whined and growled.

When the light filtered down through the rain at last, coming like another

kind of dark, she was still sitting on the bed, stiff and cold. Her arms, used to rowing on the river, ached from the stillness of holding the rifle. She had hardly allowed herself to

60 move for fear any sound might give strength to the cat. Rigid, she swayed with the movement of the house. The rain still fell as if it would never stop. Through the grey light, finally, she could see the rain-pitted flood and far away the cloudy shape of drowned treetops. The cat was not moving now. Maybe he had gone away. Laying the gun aside she slipped off the bed and moved without a sound to the window. It was

65 still there, crouched at the edge of the porch, staring up at the live oak, the mooring of her house, as if gauging its chances of leaping to an overhanging branch. It did not seem so frightening now that she could see it, its coarse fur napped into twigs, its sides pinched and ribs showing. It would be easy to shoot it

where it sat, its long tail whipping back and forth. She was moving back to get the gun when it turned

70 around. With no warning, no crouch or tensing of muscles, it sprang at the window, shattering a pane of glass. She fell back, stifling a scream, and taking up the rifle, she fired through the window. She could not see the panther now, but she had missed. It began to pace again. She could glimpse its head and the arch of its back as it passed the window.

75 Shivering, she pulled back on the bed and lay down. The lulling constant sound of the river and the rain, the penetrating chill, drained away her purpose. She watched the window and kept the gun ready. After waiting a long while she moved again to look. The panther had fallen asleep, its head on its paws, like a housecat. For the first time since the rains began she wanted to cry, for herself, for all the people, for everything

in the flood. Sliding down on the bed, she pulled the quilt around her shoulders. She should have got out when she could, while the roads were still open or before her boat was washed away. As she rocked back and forth with the sway of the house a deep ache in her stomach reminded her she hadn't eaten. She couldn't remember for how long. Like the cat, she was starving. Easing into the kitchen, she made a fire with the few remaining sticks of wood. If the flood lasted she would have to burn the chair, maybe even the table itself. Taking down the remains of a smoked ham from the ceiling, she cut thick slices of the brownish red meat and placed them in a skillet. The smell of the frying meat made her dizzy. There were stale biscuits from the last time she had cooked and she could make some coffee. There was plenty of water.

While she was cooking her food, she almost forgot about the cat until it whined. It was hungry too. "Let me eat," she called to it, "and then I'll see to *you*." And she laughed under her breath. As she hung the rest of the ham back on its nail the cat growled a deep throaty rumble that made her hand shake.

After she had eaten, she went to the bed again and took up the rifle. The house had risen so high now it no longer scraped across the bluff when it swung back from the river. The food had warmed her. She could get rid of

the cat while light still hung in the rain. She crept slowly to the window. It was still there, mewling, beginning to move about the porch. She stared at it a long time, unafraid. Then without thinking what she was doing, she laid the gun aside and started around the edge of the bed to the kitchen. Behind her the cat was moving, fretting. She took down what was left of the ham and making her way back across the swaying floor to the window she shoved it through the broken pane. On the other side there was a hungry snarl and something like a shock passed from the animal to her. Stunned by what she had done, she drew back to the bed. She could hear the sounds of the panther tearing at the meat. The house rocked around her.

The next time she awoke she knew at once that everything had changed. The rain had stopped. She felt for the movement of the house but it no longer swayed on the flood. Drawing her door open, she saw through the torn screen a different world. The house was resting on the bluff where it always had. A few feet down, the river still raced on in a torrent, but it no longer covered the few feet between the house and the live oak. And the cat was gone. Leading from the porch to the live oak and doubtless on into the swamp were tracks, indistinct and already disappearing into the soft mud. And there on the porch, gnawed to whiteness, was what was left of the ham.

Source: Dollarhide, Louis, "The Gift", in *Mississippi Writers: Reflections of Childhood and Youth*, Volume 1, edited by

Dorothy Abbott, University Press of Mississippi, 1985.

Use the story "The Gift" on the previous three pages to answer the questions which follow. (Note that line numbers are given in the margin of the story to help you find parts which are referred to in the questions.)

QUESTION 5.1

What is the woman's SITUAtion at the beginning of the story?

A. **She is too weak to leave the HOUSE after days WITHOUT food.**

B. **She is defending herself against a wild animal.**

C. **Her HOUSE has been SURROUNDED by flood waters.** _____

D. **A flooded river has swept her HOUSE away.**

QUESTION 5.2

When the woman says, "and then I'll see to *you*" (line 92) she means that she is

A. **SURE that the cat won't HURT her.** _____

B. **trying to frighten the cat.** _____

C. **intending to shoot the cat.** _____

D. **planning to feed the cat.** _____

QUESTION 5.3

Do YOU think that the last sentence of "The Gift" is an appropriate ending? _____

Explain YOUR answer, demonstrating YOUR UNDERSTANDING of how the last sentence relates to the story's meaning.

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QUESTION 5.4

"Then creaking and groaning with effort the HOUSE STRUGGLED UP …" (line 24) What happened to the HOUSE in this part of the story?

A. **It fell apart.**

B. **It began to float.**

C. **It crashed into the oak tree.**

D. **It sank to the bottom of the river.**

QUESTION 5.5

Here are some of the early references to the panther in the story.

"the cry awoke her, a sound so anguished…" (line 32)

"The answer was a repeated cry, but less shrill, tired sounding…" (line 44) "She had…heard their cries, like suffering, in the distance." (lines 51-52)

Considering what happens in the rest of the story, why do YOU think the writer chooses to INTRODUCE the panther with these descriptions?

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QUESTION 5.6

What does the story SUGGEST was the woman's reason for feeding the panther?

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QUESTION 5.7

Here is part of a conversation between two people who read "The Gift":

I think the woman in the story is heartless and cruel.

How can you say that? I think she's a very compassionate person.

Give evidence from the story to show how each of these speakers COULD JUSTIFY their point of view. Speaker 1 .....

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Speaker 2 .....

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Q6:

The Moreland Library System gives new library members a bookmark showing its Hours of Opening. Refer to the bookmark to answer the questions which follow.

HOURS OF OPENING *Effective from February 1 1998*

	Brunswick Library	Campbell Turnbull Library	Coburg Library	Fawkner Library	Glenroy Library
Sunday	1pm-5pm	Closed	2pm-5pm	Closed	2pm-5pm
Monday	11am-8pm	11am-5.30pm	1pm-8pm	11am-5.30pm	10am-5.30pm
Tuesday	11am-8pm	11am-8pm	11am-8pm	11am-8pm	10am-8pm
Wednesday	11am-8pm	11am-5pm	10am-8pm	11am-5pm	10am-8pm
Thursday	11am-8pm	11am-5.30pm	10am-8pm	11am-5.30pm	10am-8pm
Friday	11am-5pm	11am-5pm	10am-8pm	11am-5pm	10am-5.30pm
Saturday	10am-1pm	10am-1pm	9am-1pm	10am-1pm	9am-1pm

QUESTION 6.1

What time does the Fawkner Library close on Wednesday?

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QUESTION 6.2

Which library is still open at 6 p.m. on Friday evening?

A. BRUNSWICK Library

B. Campbell TURNBULL Library

C. COBURG Library

D. Fawkner Library

E. Glenroy Library

Q7: ***Warranty Text 1***

Video House 89 ELIZABETH STREET, MELBOURNE 3000 PHONE: 9670 9601 FAX: 9602 5527 http://www.camerashots.com.au CUSTOMER SARAH BROWN 151 GLENLYON STREET	CAMERA SHOTS VIDEO HOUSE 89 ELIZABETH STREET MELBOURNE VIC 3000 9670 9601		
	INVOICE 26802 **ACCOUNT** 195927	**DATE** 18/10/99 **SALES** 24 RAY	**TIME** 12:10 **REG.** 16
BRUNSWICK VIC 3057			

PRODUCT	DESCRIPTION	SERIAL No	LIST	QTY.	NET	TOTAL	EX.
150214	ROLLY FOTONEX 250 ZOOM	30910963		1	249.08	249.08	X
33844	TRIPOD			1	5.66	5.66	X
	Transaction ..... Amount						
	Visa/BankCard $254.74	Change				254.74	
					Sub-Total	254.74	
					Total		

On the opposite page is the receipt that Sarah received when she bought her new camera. Below is the warranty card for the camera. Use these documents to answer the questions which follow.

Warranty Text 2

ONE YEAR WARRANTY:(Private Users)

VALID ONLY IN AUSTRALIA

VIDEO HOUSE & COMPANY PTY LTD – ACN 008 458 884 ('VIDEO HOUSE') warrants to the initial owner that the camera is free of any defects in material or workmanship. This warranty is not transferable.

Video House will service, repair or replace at its election, and free of charge, any part which is found upon inspection by Video House to be defective in material or workmanship during the warranty period(s).

PLEASE PRINT CLEARLY

NO. M 409668

Camera – Model

.....

Serial No:

Name of Owner: *SARAH BROWN*

Address: *151 GLENLYON STREET*
BRUNSWICK VIC 3057

Date Purchased:

Purchase Price:

Rubber Stamp of Dealer

PLEASE NOTE:

Post Immediately – Postage Stamp Necessary

This warranty card should be completed and returned to Video House within 10 days of purchase.

International Warranty Card issued on request.

QUESTION 7.1

Use the details on the receipt to complete the warranty card. The name and address of the owner have already been filled in.

QUESTION 7.2

How long does Sarah have, to RETURN the warranty card?

.....

QUESTION 7.3

What else did Sarah BUY while she was in the store?

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Q7.4

The words "Thank YOU for YOUR BUSINESS" are printed on the bottom of the receipt. One possible reason for this is simply to be polite. What is another possible reason?

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Q8:

A JUST JUDGE TEXT

Refer to the story A Just Judge to answer the questions which follow it.

A JUST JUDGE

An Algerian king named Bauakas wanted to find out whether or not it was true, as he had been told, that in one of his cities lived a just judge who could instantly discern the truth, and from whom no rogue was ever able to conceal himself. Bauakas exchanged clothes with a merchant and went on horseback to the city where the judge lived.

At the entrance to the city a cripple approached the king and begged alms of him. Bauakas gave him money and was about to continue on his way, but the cripple clung to his clothing.

"What do you wish?" asked the king. "Haven't I given you money?"

"You gave me alms," said the cripple, "now grant me one favour. Let me ride with you as far as the city square, otherwise the horses and camels may trample me."

Bauakas sat the cripple behind him on the horse and took him as far as the city square. There he halted his horse, but the cripple refused to dismount.

"We have arrived at the square, why don't you get off?" asked Bauakas.

"Why should I?" the beggar replied. "This horse belongs to me. If you are unwilling to return it, we shall have to go to court."

Hearing their quarrel, people gathered around them shouting:

"Go to the judge! He will decide between you!"

Bauakas and the cripple went to the judge. There were others in court, and the judge called upon each one in turn. Before he came to Bauakas and the cripple he heard a scholar and a peasant. They had come to court over a woman: the peasant said she was his wife, and the scholar said she was his. The judge heard them both, remained silent for a moment, and then said:

"Leave the woman here with me, and come back tomorrow."

When they had gone, a butcher and an oil merchant came before the judge. The butcher was covered with blood, and the oil merchant with oil. In his hand the butcher held some money, and the oil merchant held onto the butcher's hand.

"I was buying oil from this man," the butcher said, "and when I took out my purse to pay him, he seized me by the hand and tried to take all my money away from me. That is why we have come to you—I holding onto my purse, and he holding onto my hand. But the money is mine, and he is a thief."

Then the oil merchant spoke. "That is not true," he said. "The butcher came to me to buy oil, and after I had poured him a full jug, he asked me to change a gold piece for him. When I took out my money and placed it on a bench, he seized it and tried to run off. I caught him by the hand, as you see, and

brought him here to you."

The judge remained silent for a moment, then said: "Leave the money here with me, and come back tomorrow."

When his turn came, Bauakas told what had happened. The judge listened to him, and then asked the beggar to speak.

"All that he said is untrue," said the beggar. "He was sitting on the ground, and as I rode through the city he asked me to let him ride with me. I sat him on my horse and took him where he wanted to go. But when we got there he refused to get off and said that the horse was his, which is not true."

The judge thought for a moment, then said, "Leave the horse here with me, and come back tomorrow." The following day many people gathered in court to hear the judge's decisions.

First came the scholar and the peasant.

"Take your wife," the judge said to the scholar, "and the peasant shall be given fifty strokes of the lash." The scholar took his wife, and the peasant was given his punishment.

Then the judge called the butcher.

"The money is yours," he said to him. And pointing to the oil merchant he said: "Give him fifty strokes of the lash."

He next called Bauakas and the cripple.

"Would you be able to recognise your horse among twenty others?" he asked Bauakas.

"I would," he replied.

"And you?" he asked the cripple.

"I would," said the cripple.

"Come with me," the judge said to Bauakas.

They went to the stable. Bauakas instantly pointed out his horse among the twenty others. Then the judge called the cripple to the stable and told him to point out the horse. The cripple recognised the horse and pointed to it. The judge then returned to his seat.

"Take the horse, it is yours," he said to Bauakas. "Give the beggar fifty strokes of the lash." When the judge left the court and went

home, Bauakas followed him.

"What do you want?" asked the judge. "Are you not satisfied with my decision?"

"I am satisfied," said Bauakas. "But I should like to learn how you knew that the woman was the wife of the scholar, that the money belonged to the butcher, and that the horse was mine and not the beggar's."

"This is how I knew about the woman: in the morning I sent for her and said: 'Please fill my inkwell.' She took the inkwell, washed it quickly and deftly, and filled it with ink; therefore it was work she was accustomed to. If she had been the wife of the peasant she would not have known how to do it. This showed me that the scholar was telling the truth.

"And this is how I knew about the money: I put it into a cup full of water, and in the morning I looked to see if any oil had risen to the surface. If the money had belonged to the oil merchant it would have been soiled by his oily hands. There was no oil on the water; therefore, the butcher was telling the truth.

"It was more difficult to find out about the horse. The cripple recognised it among twenty others, even as you did. However, I did not take you both to the stable to see which of you knew the horse, but to see which of you the horse knew. When you approached it, it turned its head and stretched its neck toward you; but when the cripple touched it, it laid back its ears and lifted one hoof. Therefore I knew that you were the horse's real master."

Then Bauakas said to the judge: "I am not a merchant, but King Bauakas, I came here in order to see if what is said of you is true. I see now that you are a wise judge. Ask whatever you wish of me, and you shall have it as reward."

"I need no reward," replied the judge. "I am content that my king has praised me."

Source: Leo Tolstoy, "A Just Judge" in *Fable and Fairytales*, translated by Ann Dunningham.

QUESTION 8.1

Near the beginning of the story we are told that BAUAKAS exchanged clothes with a merchant. Why didn't BAUAKAS want to be recognised?

A. **He wanted to see if he WOULD still be obeyed when he was an "ordinary" person.**

B. **He planned to appear in a case before the JUDGE, DISGUISED as a merchant.**

C. **He enjoyed DISGUISING himself so he COULD move ABOUT freely and play tricks on his SUBJECTS.**

D. **He wanted to see the JUDGE at work in his USUAL way, UNINFLUENCED by the presence of the king.**

QUESTION 8.2

How did the JUDGE know that the woman was the wife of the scholar?

A. By observing her appearance and seeing that she did not look like a peasant's wife.

B. By the way the scholar and the peasant told their stories in COURT.

C. By the way she reacted to the peasant and the scholar in COURT.

D. By testing her skill in work that she needed to perform for her HUSBAND.

QUESTION 8.3

Do YOU think it was fair of the JUDGE to give the SAftE PUNISHMENT for all the crimes?

.....

.....

.....

.....

QUESTION 8.4

What is this story mainly ABOUT?

A. ftajor crimes.

B. Wise JUSTICE.

C. A goodRULER.

D. A clever trick.

QUESTION 8.5

For this QUESTION YOU need to compare law and JUSTICE in YOUR COUNTRY with the law and JUSTICE shown in the story.

In the story crimes are PUNISHED UNDER the law. What is another way in which law and JUSTICE in YOUR COUNTRY are *SIMILAR* to the kind of law and JUSTICE shown in this story?

.....

.....

In the story the JUDGE gives fifty strokes of the lash for all the crimes. Apart from the kind of PUNISHMENT, what is one way in which law and JUSTICE in YOUR COUNTRY are *DIFFERENT* to the kind of law and JUSTICE shown in this story?

.....

.....

QUESTION 8.6

Which one of the following best describes this story?

____ **A. A folk tale.**

B. A travel story.

____ **C. An historical ACCOUNT.**

D. A tragedy.

E. A comedy.

Q9:

from Arnold Jago

Did you know that in 1996 we spent almost the same amount on chocolate as our Government spent on overseas aid to help the poor?

Could there be something wrong with our priorities? What are you going to do about it?

Yes, you.

Arnold Jago,

Mildura

Source: The Age newspaper, Melbourne, Australia ,1st April, 1997.

The letter above appeared in an Australian newspaper in 1997. Refer to the letter to answer the questions below.

QUESTION 9.1

Arnold Jago's aim in the letter is to provoke

A. GUILT.

B. AMUSEMENT.

C. fear.

D. satisfaction.

QUESTION 9.2

What kind of response or action do YOU think Arnold Jago WOULD like his letter to prompt?

.....

.....

.....

Q10:

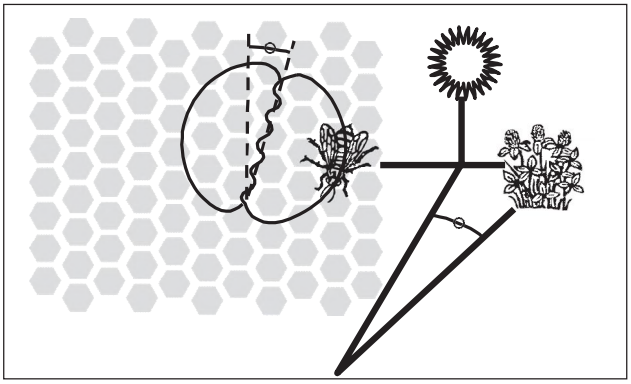
Bees Text

The information on this page and the next page is from a booklet about bees. Refer to the information to answer the questions which follow it.

Collecting Nectar

Bees make honey to survive. It is their only essential food. If there are 60,000 bees in a hive about one third of them will be involved in gathering nectar which is then made into honey by the house bees. A small number of bees work as foragers or searchers. They find a source of nectar, then return to the hive to tell the other bees where it is.

Foragers let the other bees know where the source of the nectar is by performing a dance which gives information about the direction and the distance the bees will need to fly. During this dance the bee shakes her abdomen from side to side while running in circles in the shape of a figure 8. The dance follows the pattern shown on the following diagram.



The diagram shows a bee dancing inside the hive on the vertical face of the honeycomb. If the middle part of the figure 8 points straight up it means that bees can find the food if they fly straight towards the sun. If the middle part of the figure 8 points to the right, the food is to the right of the sun.

The distance of the food from the hive is indicated by the length of time that the bee shakes her abdomen. If the food is quite near the bee shakes her abdomen for a short time. If it is a long way away she shakes her abdomen for a long time.

MAKING HONEY

When the bees arrive at the hive carrying nectar they give this to the house bees. The house bees move the nectar around with their mandibles, exposing it to the warm dry air of the hive. When it is first gathered the nectar contains sugar and minerals mixed with about 80% water. After ten to twenty minutes, when much of the excess water has evaporated, the house bees put the nectar in a cell in the honeycomb where evaporation continues. After three days, the honey in the cells contains about 20% water. At this stage, the bees cover the cells with lids which they make out of beeswax.

At any one time the bees in a hive usually gather nectar from the same type of blossom and from the same area. Some of the main sources of nectar are

fruit trees, clover and flowering trees.

Source: "Hum Sweet Hum", National Foundation for Educational Research, 1993.

GLOSSARY

house bee	*a worker bee which works inside the hive.*
mandible	*mouth-part.*

QUESTION 10.1

What is the PURPOSE of the bees' dance?

A. **To celebrate the SUCCESSFUL PRODUCTION of honey.**

B. **To indicate the type of plant the foragers have FOUND.**

C. **To celebrate the birth of a new QUEEN Bee.**

D. **To indicate where the foragers have FOUND food.**

QUESTION 10.2

Write down three of the main SOURCES of nectar.

1. .....

2. .....

3. .....

QUESTION 10.3

What is the main difference between nectar and honey?

A. **The proportion of water in the SUBSTANCE.**

B. **The proportion of SUGAR to minerals in the SUBSTANCE.**

C. **The type of plant from which the SUBSTANCE is gathered.**

D. **The type of bee which processes the SUBSTANCE.**

QUESTION 10.4

In the dance, what does the bee do to show how far the food is from the hive?

Competency Based Questions from OECD's PISA Assessments Programme

SUB: SCIENCE CLASS: X

OZONE

Read the following section of an article about the ozone layer.

The atmosphere is an ocean of air and a precious natural resource for sustaining life on the Earth. Unfortunately, human activities based on national/personal interests are causing harm to this common resource, notably by depleting the fragile ozone layer, which acts as a protective shield for life on the Earth.

Ozone molecules consist of three oxygen atoms, as opposed to oxygen molecules which consist of two oxygen atoms. Ozone molecules are exceedingly rare: fewer than ten in every million molecules of air. However, for nearly a billion years, their presence in the atmosphere has played a vital role in safeguarding life on Earth. Depending on where it is located, ozone can either protect or harm life on Earth. The ozone in the troposphere (up to 10 kilometres above the Earth's surface) is "bad" ozone which can damage lung tissues and plants. But about 90 percent of ozone found in the stratosphere (between 10 and 40 kilometres above the Earth's surface) is "good" ozone which plays a beneficial role by absorbing dangerous ultraviolet (UV-B) radiation from the Sun.

Without this beneficial ozone layer, humans would be more susceptible to certain diseases due to the

increased incidence of ultra-violet rays from the Sun. In the last decades the amount of ozone has decreased. In 1974 it was hypothesised that chlorofluorocarbons (CFCs) could be a cause for this. Until
1987, scientific assessment of the cause-effect relationship was not convincing enough to implicate CFCs.
However, in September 1987, diplomats from around the world met in Montreal (Canada) and agreed to
set sharp limits to the use of CFCs.

- In the text above nothing is mentioned about the way ozone is formed in the atmosphere. In fact eachday some ozone is formed and some other ozone disappears. The way ozone is formed is illustrated inthe following comic strip.

Suppose you have an uncle who tries to understand the meaning of this strip. However, he did not get
any science education at school and he doesn't understand what the author of the strip is explaining. He knows that there are no little fellows in the atmosphere but he wonders what those little fellows in the strip stand for, what those strange notations O, O2 and O3 mean and which processes the strip
represents. He asks you to explain the strip. Assume that your uncle knows:
that O is the symbol for oxygen;

1.what atoms and molecules are.

2.Write an explanation of the comic strip for your uncle.

3.In your explanation, use the words atoms and molecules in the way they are used in paragraph..

DAYLIGHT

Read the following information and answer the questions that follow.
□ □□ □□□□□□□□□□□□□□□□□□□□□□□□□□□□
Today, as the Northern Hemisphere celebrates its longest day, Australians will experience their shortest. In Melbourne*, Australia, the Sun will rise at 7:36 am and set at5:08 pm, giving nine hours and32 minutes of day light.Compare today to the year's longest day in the Southern Hemisphere, expected on 22December, when the Sun will rise at 5:55 am and set at 8:42pm, giving 14 hours and 47minutes of day light.The President of the Astronomical Society, Mr Perry Vlahos, said the existence of changing seasons in the Northern and Southern
Hemispheres was linked to the Earth's 23-degree tilt.
*Melbourne is a city in Australia at a latitude of about 38 degrees South of the equator.
2(a) Which statement explains why daylight and darkness occur on Earth?
A. The Earth rotates on its axis.
B. The Sun rotates on its axis.
C. The Earth's axis is tilted.
D. The Earth revolves around the Sun.

CLONING

Read the newspaper article and answer the questions that follow.

A copying machine for living beings?

Without any doubt, if there had been elections for the animal of the year 1997,

Dolly would have been the winner! Dolly is a Scottish sheep that you see in

the photo. But Dolly is not just a simple sheep. She is a clone of another sheep.

A clone means: a copy. Cloning means copying ‘from a single master copy’. Scientists succeeded in creating a sheep(Dolly) that is identical to a sheep that functioned as a ‘master copy’.It was the Scottish scientist Ian Wilmut who designed the ‘copying machine’ for sheep. He took a very small piece from the udder of an adult sheep (sheep 1).From that small piece he removed the nucleus, then he transferred the nucleus into the egg-cell of another (female) sheep (sheep 2). But first he removed from that egg-cell all the material that would have determined sheep 2 characteristics in a lamb produced from that egg-cell. Ian Wilmut implanted the manipulated egg-cell of sheep 2 into yet another (female) sheep (sheep 3). Sheep 3 became pregnant and had a lamb: Dolly. Some scientists think that within a few years it will be possible to clone people as well. But many governments have already decided to forbid cloning of people by law.

Q1.Which sheep is Dolly identical to?
A. Sheep 1
B. Sheep 2
C. Sheep 3
D. Dolly’s father

Q2.In line 14 the part of the udder that was used is described as “a very small piece”. From the article text you can work out what is meant by “a very small piece”.
That “very small piece” is
A. a cell.
B. a gene.
C. a cell nucleus.
D. a chromosome.

ACID RAIN

Below is a photo of statues called Caryatids that were built on the Acropolis in Athens more than 2500 years ago. The statues are made of a type of rock called marble. Marble is composed of calcium carbonate.
In 1980, the original statues were transferred inside the museum of the Acropolis and were replaced by replicas. The original statues were being eaten away by acid rain.

Q1.Normal rain is slightly acidic because it has absorbed some carbon dioxide from the air. Acid rain is more

acidic than normal rain because it has absorbed gases like sulfur oxides and nitrogen oxides as well.

Where do these sulfur oxides and nitrogen oxides in the air come from?

Q2.A marble chip has a mass of 2.0 grams before being immersed in vinegar overnight. The chip is removed and dried the next day. What will the mass of the dried marble chip be?

A. Less than 2.0 grams
B. Exactly 2.0 grams
C. Between 2.0 and 2.4 grams
D. More than 2.4 grams

Q3.Students who did this experiment also placed marble chips in pure (distilled) water overnight. Explain why the students included this step in their experiment.

BIODIVERSITY

Read the following newspaper article and answer the questions which follow.

FOOD WEB A FOOD WEB B

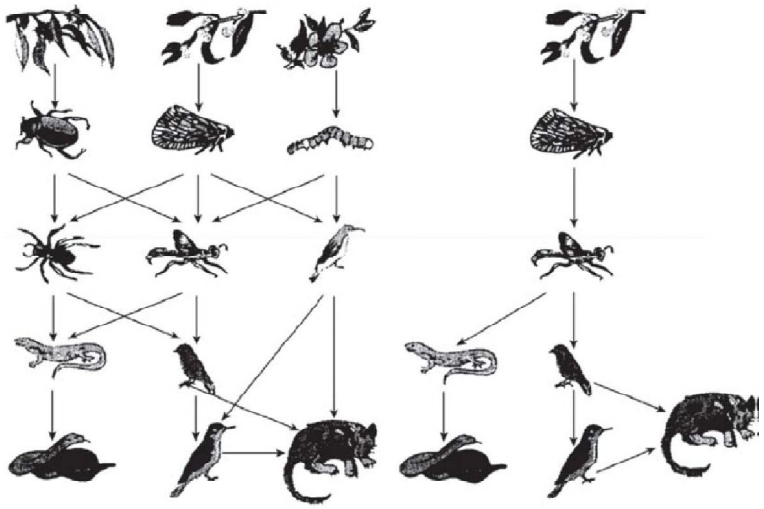
BIODIVERSITY IS THE KEY TO MANAGING ENVIRONMENT

An ecosystem that retains a high biodiversity (that is, a wide variety of living things) is much more likely to adapt to human-caused environment change than is one that has little.

Consider the two food webs shown in the diagram. The arrows point from the organism that gets eaten to the one that eats it. These food webs are highly simplified compared with food webs in real ecosystems, but they still illustrate a key difference between more diverse and less diverse ecosystems.

Food web B represents a situation with very low biodiversity, where at some levels the food path involves only a single type of organism. Food web A represents a more diverse ecosystem with, as a result, many more alternative feeding pathways.

Generally, loss of biodiversity should be regarded seriously, not only because the organisms that have become extinct represent a big loss for both ethical and utilitarian (useful benefit) reasons, but also because the organisms that remain have become more vulnerable (exposed) to extinction in the future



Q1.Food webs A and B are in different locations. Imagine if Leaf Hoppers died out in both locations. Which
one of these is the best prediction and explanation for the effect this would have on the food webs?
A. The effect would be greater in food web A because the Parasitic Wasp has only one food source in web A.
B. The effect would be greater in food web A because the Parasitic Wasp has several food sources in web A.
C. The effect would be greater in food web B because the Parasitic Wasp has only one food source in web B.
D. The effect would be greater in food web B because the Parasitic Wasp has several food sources in web B.

Q2.In lines 9 and 10 it is stated that “Food web A represents a more diverse ecosystem with, as a result, many more alternative feeding pathways.”

Look at FOOD WEB A. Only two animals in this food web have three direct (immediate) food sources.

Which two animals are they?

A. Native Cat and Parasitic Wasp

B. Native Cat and Butcher Bird

C. Parasitic Wasp and Leaf Hopper

D. Parasitic Wasp and Spider

E. Native Cat and Honey eater

FLIES

Read the following information and answer the questions which follow.

FLIES

A farmer was working with dairy cattle at an agricultural experiment station. The population of flies in

the barn where the cattle lived was so large that the animals’ health was affected. So the farmer sprayed

the barn and the cattle with a solution of insecticide A. The insecticide killed nearly all the flies. Some

time later, however, the number of flies was again large. The farmer again sprayed with the

insecticide.

The result was similar to that of the first spraying. Most, but not all, of the flies were killed. Again, within

a short time the population of flies increased, and they were again sprayed with the insecticide. This sequence of events was repeated five times: then it became apparent that insecticide A was becoming

less and less effective in killing the flies. The farmer noted that one large batch of the insecticide solution

had been made and used in all the sprayings. Therefore he suggested the possibility that the insecticide

solution decomposed with age.

Q1.The farmer's suggestion is that the insecticide decomposed with age. Briefly explain how this suggestion
could be tested.

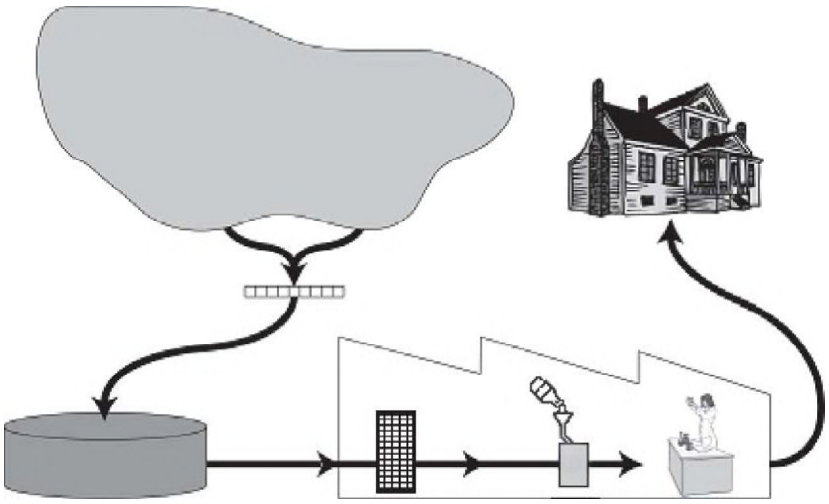
Q2.The farmer's suggestion is that the insecticide decomposed with age. Give two alternative explanations

as to why "insecticide A was becoming less and less effective …"

Explanation 1_____:. .

Explanation 2:_____.

FIT FOR DRINKING



Q1.It is important to have a source of good drinking water. Water found underground is referred to

as
ground water.
Give one reason why there is less bacteria and particle pollution in ground water than in water from surface sources such as lakes and rivers
._____..
.

Q2.The cleaning of water often happens in several steps, involving different techniques. The cleaning process shown in the figure involves four steps (numbered 1–4). In the second step, the water is collected in a settling pond.

In what way does this step make the water cleaner?

A. The bacteria in the water die.

B. Oxygen is added to the water.

C. Gravel and sand sink to the bottom.

D. Toxic substances are broken down.

STARLIGHT

Toshio likes to look at stars. However, he cannot observe stars very well at night because he lives in a large city.
Last year Toshio visited the countryside where he observed a large number of stars that he cannot see when he is in the city.

Q1.Why can many more stars be observed in the countryside than in large cities?
A. The moon is brighter in cities and blocks out the light from many stars.
B. There is more dust to reflect light in country air than in city air.
C. The brightness of city lights makes many stars hard to see.
D. The air is warmer in cities due to heat emitted by cars, machinery and houses.

Q2.Toshio uses a telescope with a large diameter lens in order to observe stars of low brightness. Why does using a telescope with a large diameter lens make it possible to observe stars of low brightness?
A. The larger the lens the more light is collected.
B. The larger the lens the more it magnifies.
C. Larger lenses allow more of the sky to be seen.
D. Larger lenses can detect the dark colours in stars

BREAD DOUGH

.

. Q1.Fermentation causes the dough to rise. Why does the dough rise?
A. The dough rises because alcohol is produced and turns into a gas.
B. The dough rises because of single-celled fungi reproducing in it.
C. The dough rises because a gas, carbon dioxide, is produced.
D. The dough rises because fermentation turns water into a vapour

Q2.In the dough, yeast helps to transform starch and sugars in the flour. A chemical reaction occurs during
which carbon dioxide and alcohol form.
Where do the *carbon atoms* that are present in carbon dioxide and alcohol come from? Circle "Yes" or
"No" for each of the following possible explanations.

a.Is this a correct explanation of where the carbon atoms come from?	Yes or No?
b.Some carbon atoms come from the sugars.	Yes / No
c.Some carbon atoms are part of the salt molecules	. Yes / No
d.Some carbon atoms come from the water.	Yes / No

Competency Based Questions from OECD's PISA Assessments Programme

SUB: MATHS CLASS: X

Starting with a problem in reality.

Organising it according to mathematical concepts and identifying the relevant mathematics.

s Gradually trimming away the reality to transform the real-world problem into a mathematical problem that faithfully represents the situation.

s Solving the mathematical problem.

s Making sense of the mathematical solution in terms of the real situation.

The third dimension is the *situation* in which mathematics is used. PISA identifies four situations: personal, educational or occupational, public (related to the local community or society) and scientific. Each question used in a PISA survey falls into one category of each of the three dimensions. Question 10.1 from the unit Carpenter, for example, is part of the connections competency cluster, using content of the overarching idea quantity and set in an occupational situation. As the last two categorisations are generally fairly obvious, they will not be explicitly mentioned for the questions presented here.

To report the results of PISA 2000 a single mathematics scale was used. The average score on this scale is 500 with two-thirds of students scoring between 400 and 600. In 2003, when mathematics was the major domain, separate scales for each of the four content areas were created in addition to the overall mathematics scale. As in 2000, the average on each scale is 500 with two-thirds of students scoring between 400 and 600. In the 2006 survey, a single mathematics scale was used to gauge performance. The results
are compared to the benchmark of 500 score points established by PISA 2003. More information on PISA proficiency scales can be found in Annex A.

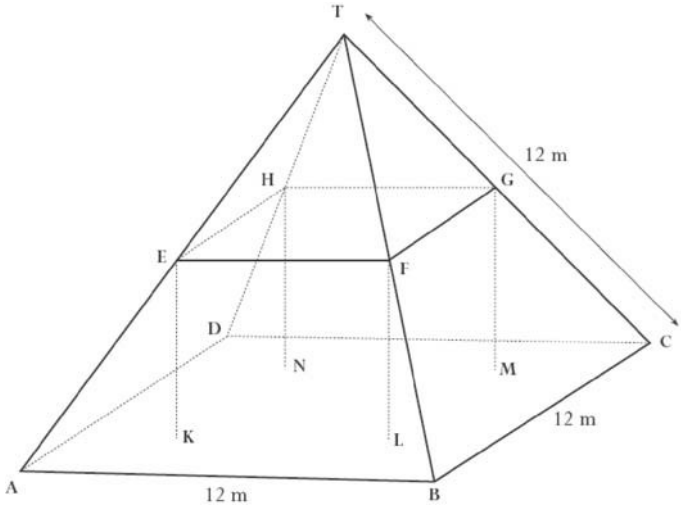
It is the policy of PISA that students should be allowed to use calculators and other tools as they are normally used in school. However, the test questions are chosen so that the use of calculators is not likely to enhance a student's performance in the assessment. This chapter presents 50 units. The first 26 units were used in the PISA surveys. Units 27 to 50 were used in developing and testing out the surveys. While it was decided not to include these units in the PISA surveys, they are nevertheless illustrative of the kinds of questions asked in PISA. The questions presented in this chapter are all publicly released PISA mathematics questions. Following the section with questions, answers for all

questions are given. For units 1 to 26, a comment box includes score points, the percentage of students who answered correctly across OECD countries and the question category. For country results, refer to Annex B. For units 27 to 50, a comment box lists the question category. Because these units were not used in the final PISA surveys the information regarding score points and percentage of students who answered correctly is not known or it not sufficiently reliable to be presented here.

MATHEMATICS UNIT 1: FARMS

Here you see a photograph of a farmhouse with a roof in the shape of a pyramid.

Below is a student's mathematical model of the farmhouse **roof** with measurements added.



The attic floor, ABCD in the model, is a square. The beams that support the roof are the edges of a block (rectangular prism) EFGHKLMN. E is the middle of AT, F is the middle of BT, G is the middle of CT and H is the middle of DT. All the edges of the pyramid in the model have length

12 m.

QUESTION 1.1

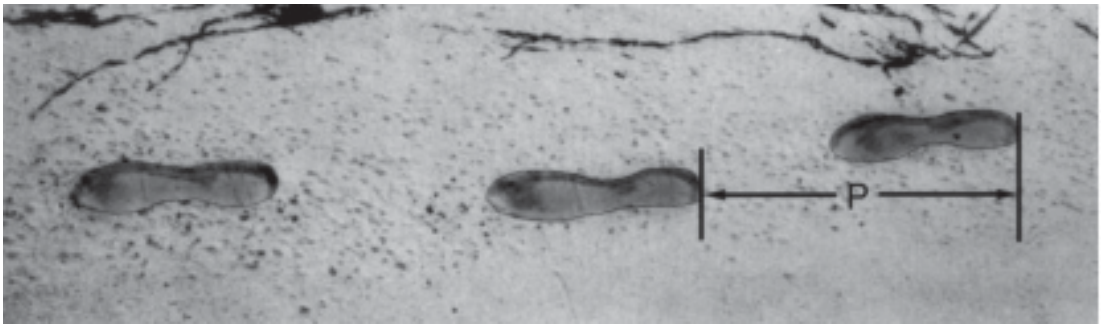
CALCULATE the area of the attic floor ABCD.

The area of the attic floor ABCD =_____m²

QUESTION 1.2

CALCULATE the length of EF, one of the horizontal edges of the block. The length of EF =_____m

MATHEMATICS UNIT 2: WALKING



The picture shows the footprints of a man walking. The pacelength *P* is the distance between the rear of two consecutive footprints.

For men, the formula, $P = \frac{140}{n}$, gives an approximate relationship between *n* and *P* where,

n = number of steps per minute, and

P = pacelength in metres.

QUESTION 2.1

If the FORMULA applies to Heiko's walking and Heiko takes 70 steps per MINUTE, what is Heiko's pacelength? Show YOUR work.

QUESTION 2.2

Bernard knows his pacelength is 0.80 metres. The FORMULA applies to Bernard's walking.

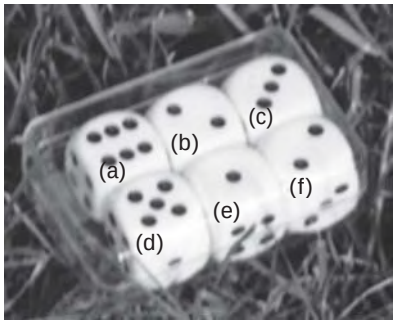
CALCULATE Bernard's walking speed in metres per MINUTE and in kilometres per HOUR. Show YOUR working OUT.

MATHEMATICS UNIT 4: CUBES

QUESTION 4.1

In this photograph you see six dice, labelled (a) to (f). For all dice there is a rule: The total number of dots on two opposite faces of each die is always seven.

Write in each box the NUMBER of dots on the *bottom* face of the dice corresponding to the photograph.



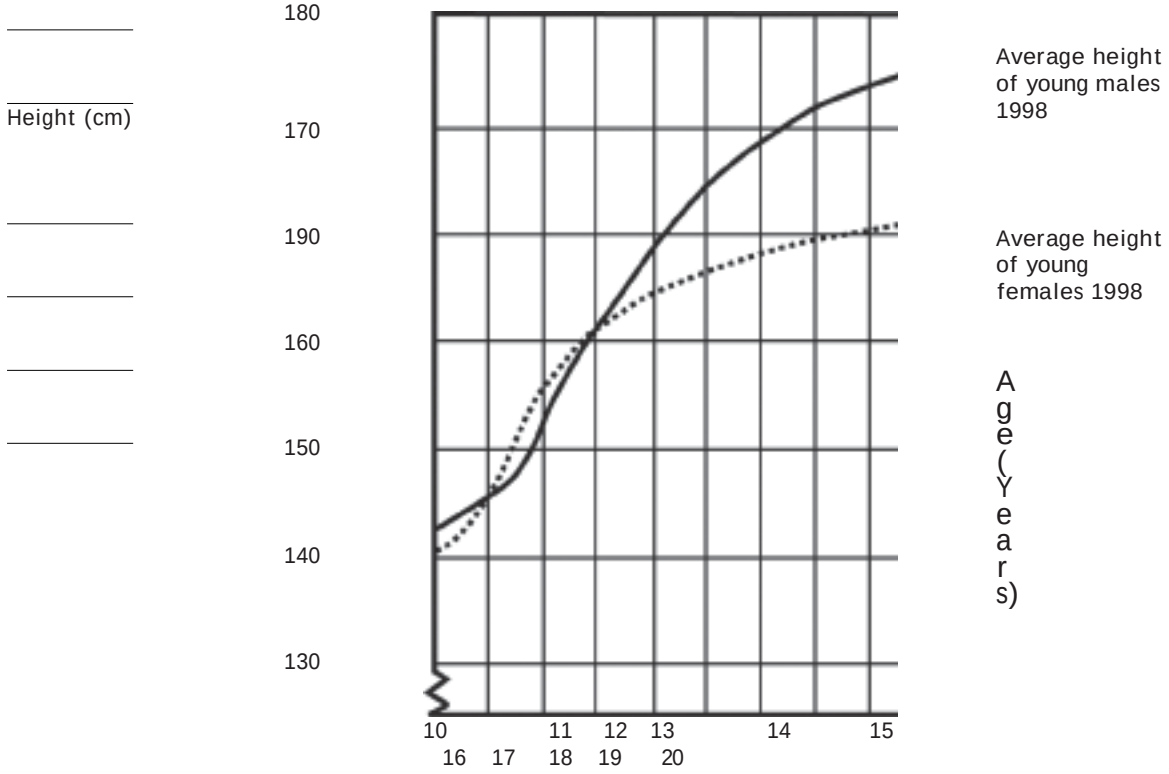
(a)	(b)	(c)

(d) **(e)** **(f)**

MATHEMATICS UNIT 5: GROWING UP

Youth grows taller

In 1998 the average height of both young males and young females in the Netherlands is represented in this graph.



QUESTION 6.1

Since 1980 the average height of 20-year-old females has increased by 2.3 cm, to 170.6 cm. What was the average height of a 20-year-old female in 1980?

Answer:_____cm

QUESTION 6.2

Explain how the graph shows that on average the growth rate for girls slows down after 12 years of age.

.....

.....

QUESTION 6.3

According to this graph, on average, DURING which period in their life are females taller than males of the same age?

.....

.....

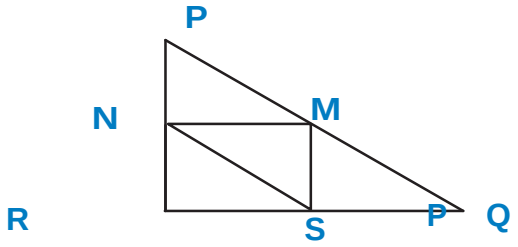
MATHEMATICS UNIT 8: TRIANGLES

QUESTION 8.1

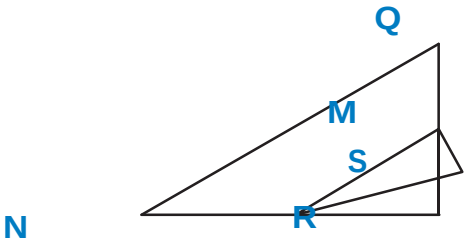
Circle the one figure below that fits the following description.

Triangle PQR is a right triangle with right angle at R. The line RQ is less than the line PR. M is the midpoint of the line PQ and N is the midpoint of the line QR. S is a point inside the triangle. The line MN is greater than the line MS.

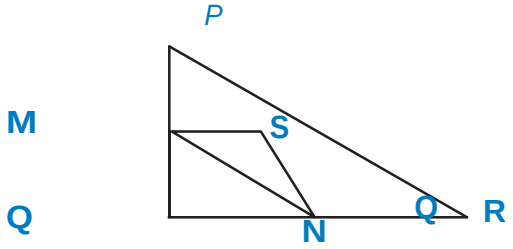
A



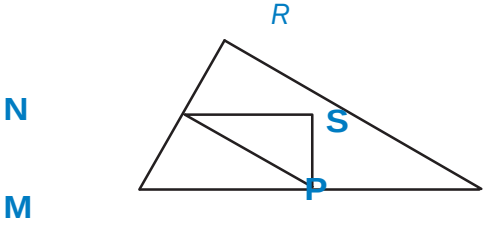
B



C

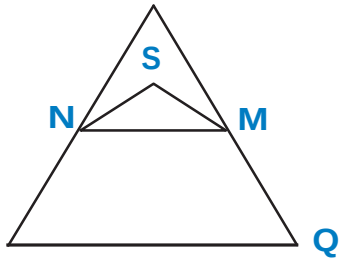


D



E

R

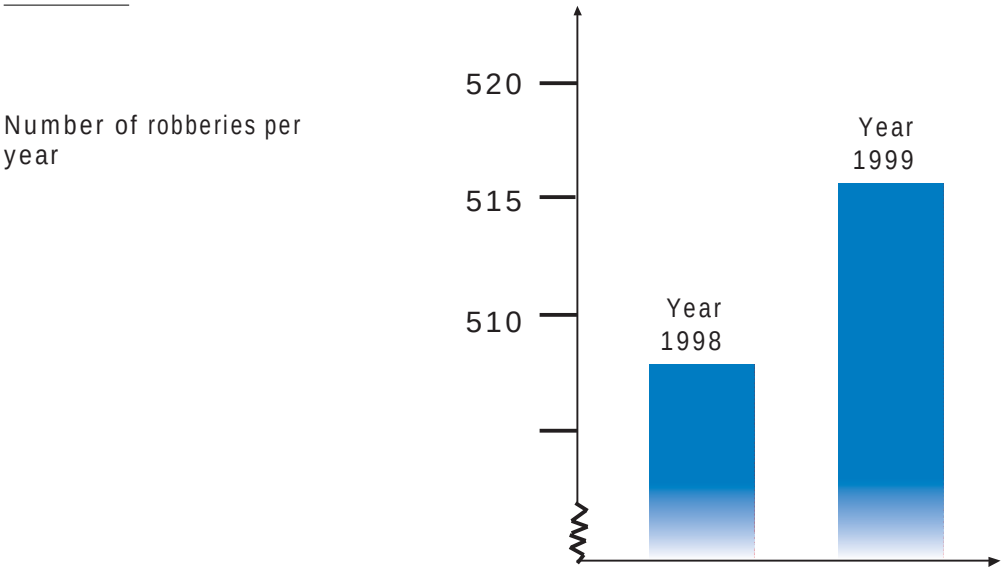


MATHEMATICS UNIT 9: ROBBERIES

QUESTION 9.1

A TV reporter showed this graph and said:

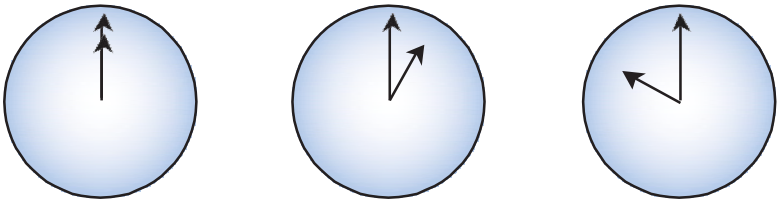
"The graph shows that there is a huge increase in the number of robberies from 1998 to 1999."



MATHEMATICS UNIT 11: INTERNET RELAY CHAT

Mark (from Sydney, Australia) and Hans (from Berlin, Germany) often communicate with each other using "chat" on the Internet. They have to log on to the Internet at the same time to be able to chat.

To find a suitable time to chat, Mark looked up a chart of world times and found the following:



Greenwich 12 Midnight Berlin 1:00 AM Sydney 10:00 AM

QUESTION 11.1

At 7:00 Pft in Sydney, what time is it in Berlin?

Answer: .....

QUESTION 11.2

ftark and Hans are not able to chat between 9:00 Aft and 4:30 Pft their local time, as they have to go to school. Also, from 11:00 Pft till 7:00 Aft their local time they won't be able to chat BECAUSE they will be sleeping.

When WOULD be a good time for ftark and Hans to chat? Write the local times in the table.

Place	Time
Sydney	
Berlin	

QUESTION 21.3

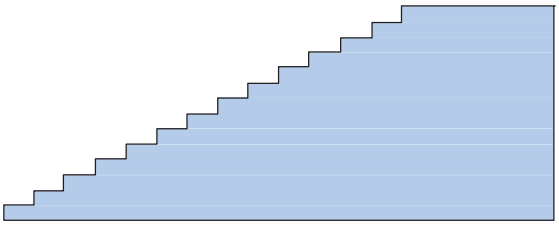
Eric has 120 zeds to spend and wants to BUY the most expensive skateboard he can afford.

How MUCH money can Eric afford to spend on each of the 4 parts? PUT YOUR answer in the table below.

Part	AMOUNT (zeds)
Deck	
Wheels	
TRUCKS	
Hardware	

MATHEMATICS UNIT 22 : STAIRCASE

QUESTION 22.1



Total height 252 cm

Total depth 400 cm

The diagram above illustrates a staircase with 14 steps and a total height of 252 cm: What is the height of each of the 14 steps?

Height:.....cm.

MATHEMATICS UNIT 28 : COINS

You are asked to design a new set of coins. All coins will be circular and coloured silver, but of different diameters.

Researchers have found out that an ideal coin system meets the following requirements:

s diameters of coins should not be smaller than 15 mm and not be larger than 45 mm.

s given a coin, the diameter of the next coin must be at least 30% larger.

the minting machinery can only produce coins with diameters of a whole number of millimetres (*e.g.* 17 mm is allowed, 17.3 mm is not).

QUESTION 28.1

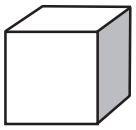
You are asked to design a set of coins that satisfy the above REQUIREMENTS. YOU SHOULD start with a 15 mm coin and YOUR set SHOULD contain as many coins as possible. What WOULD be the diameters of the coins in YOUR set?

.....

.....

MATHEMATICS UNIT 34: BUILDING BLOCKS

Susan likes to build blocks from small cubes like the one shown in the following diagram:



Small cube

Susan has lots of small cubes like this one. She uses glue to join cubes together to make other blocks. First, Susan glues eight of the cubes together to make the block shown in Diagram A:

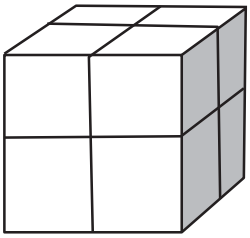
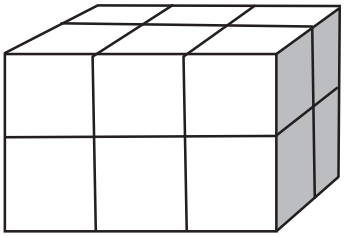


Diagram A

Then Susan makes the solid blocks shown in Diagram B and Diagram C below:



$IAGRAM "

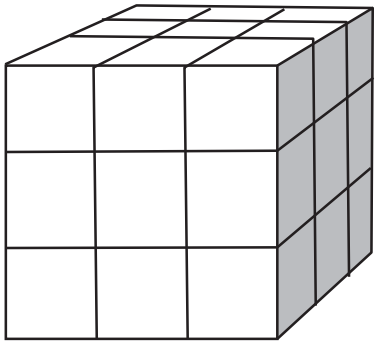


Diagram C

QUESTION 34.1

How many small CUBES will SUSAN need to make the block shown in Diagram B? Answer: ..... CUBES.

QUESTION 34.2

How many small CUBES will SUSAN need to make the solid block shown in Diagram C? Answer: ..... CUBES.

QUESTION 34.3

SUSAN realises that she USED more small CUBES than she really needed to make a block like the one shown in Diagram C. She realises that she COULD have GLUED small CUBES together to look like Diagram C, BUT

What is the MINIMUM NUMBER of CUBES she needs to make a block that looks like the one shown in Diagram C, BUT is hollow?

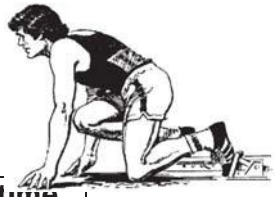
Answer: ..... CUBES.

QUESTION 34.4

Now SUSAN wants to make a block that looks like a solid block that is 6 small CUBES long, 5 small CUBES wide and 4 small CUBES high. She wants to USE the smallest NUMBER of CUBES possible, by leaving the largest possible hollow space inside the block.

What is the MINIMUM NUMBER of CUBES SUSAN will need to make this block? Answer: ..... CUBES.

MATHEMATICS UNIT 35: REACTION TIME



In a Sprinting event, the 'reaction time' is the time interval between the starter's gun firing and the athlete leaving the starting block. The 'final time' includes both this reaction time, and the running time.

The following table gives the reaction time and the final time of 8 runners in a 100 metre sprint race.

Lane	Reaction time (sec)	Final time (sec)
1	0.147	10.09
2	0.136	9.99
3	0.197	9.87
4	0.180	Did not finish the race
5	0.210	10.17
6	0.216	10.04
7	0.174	10.08
8	0.193	10.13

QUESTION 35.1

Identify the Gold, Silver and Bronze medallists from this race. Fill in the table below with the medallists' lane NUMBER, reaction time and final time.

ftedal	Lane	Reaction time (secs)	Final time (secs)
GOLD			
SILVER			
BRONZE			

QUESTION 35.2

To date, no HUMANS have been able to react to a starter's GUN in less than 0.110 second.

If the recorded reaction time for a RUNNER is less than 0.110 second, then a false start is considered to have OCCURRED BECAUSE the RUNNER MUST have left before hearing the GUN.

If the Bronze medallist had a faster reaction time, WOULD he have had a chance to win the Silver medal? Give an explanation to SUPPORT YOUR answer.

.....

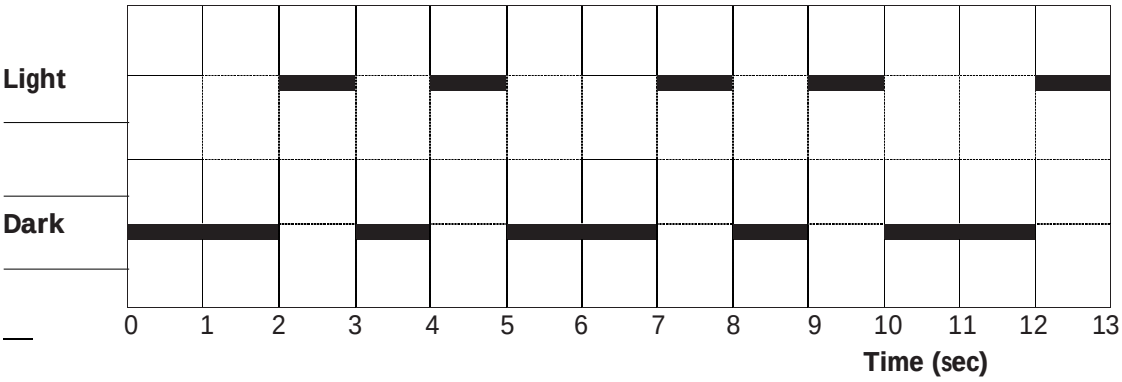
.....

MATHEMATICS UNIT 43: LIGHTHOUSE

Lighthouses are towers with a light beacon on top. Lighthouses assist sea ships in finding their way at night when they are sailing close to the shore.

A lighthouse beacon sends out light flashes with a regular fixed pattern. Every lighthouse has its own pattern.

In the diagram below you see the pattern of a certain lighthouse. The light flashes alternate with dark periods.



It is a regular pattern. After some time the pattern repeats itself. The time taken by one complete cycle of a pattern, before it starts to repeat, is called the *period*. When you find the period of a pattern, it is easy to extend the diagram for the next seconds or minutes or even hours.

QUESTION 43.1

Which of the following COULD be the period of the pattern of this LIGHTHOUSE?

A. 2 seconds.

B. 3 seconds.

C. 5 seconds.

D. 12 seconds.

QUESTION 43.2

For how many seconds does the LIGHTHOUSE send OUT light flashes in 1 MINUTE?

A. 4

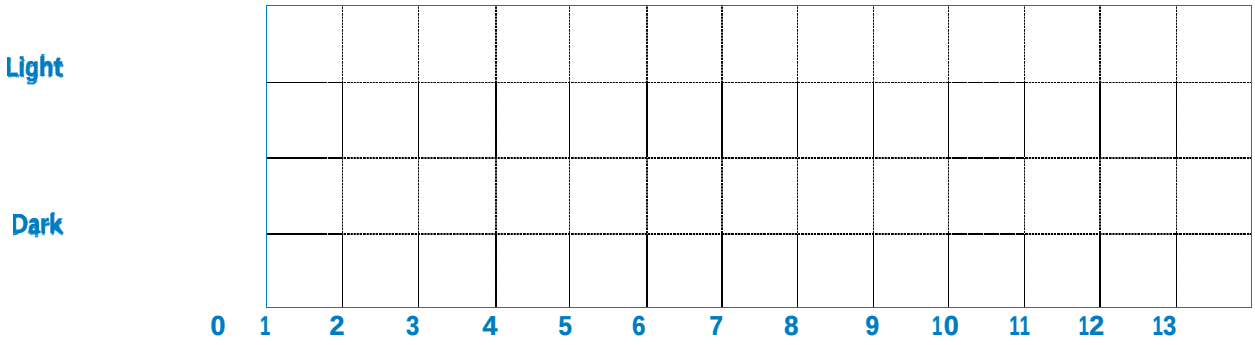
B. 12

C. 20

D. 24

QUESTION 43.3

In the diagram below, make a graph of a possible pattern of light flashes of a LIGHTHOUSE that sends OUT light flashes for 30 seconds per MINUTE. The period of this pattern MUST be EQUAL to 6 seconds.

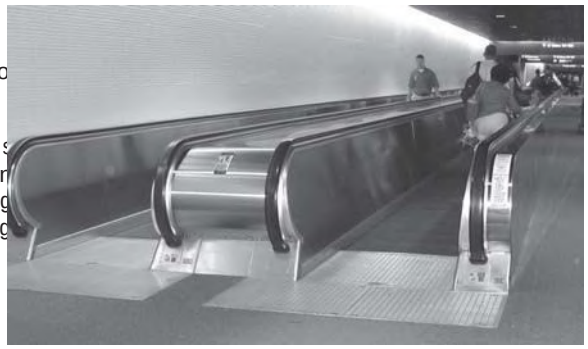


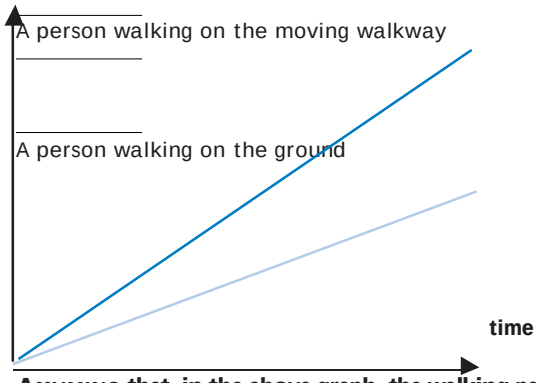
MATHEMATICS UNIT 49: MOVING WALKWAYS

QUESTION 49.1

On the right is a photograph of mo
___ walkways.

The following Distance-Time graph s
comparison between "walking on
the moving walkway" and "walking
on the ground next to the moving
walkway."





ASSUMING that, in the above graph, the walking pace is ABOUT the same for both persons, add a line to the graph that WOULD represent the distance VERSUS time for a person who is standing still on the moving walkway.

MATHEMATICS UNIT 50: POSTAL CHARGES

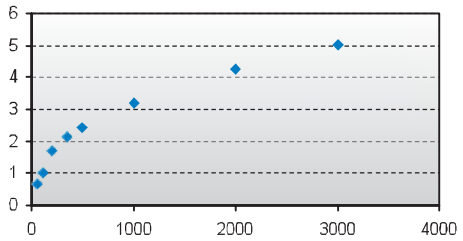
The postal charges in Zedland are based on the weight of the items (to the nearest gram), as shown in the table below:

Weight (to nearest gram)	Charge
Up to 20 g	0.46 zeds
21 g – 50 g	0.69 zeds
51 g – 100 g	1.02 zeds
101 g – 200 g	1.75 zeds
201 g – 350 g	2.13 zeds
351 g – 500 g	2.44 zeds
501 g – 1000 g	3.20 zeds
1001 g – 2000 g	4.27 zeds
2001 g – 3000 g	5.03 zeds

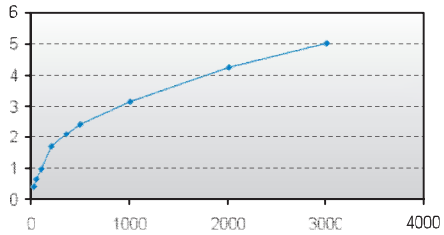
QUESTION 50.1

Which one of the following graphs is the best representation of the postal charges in Zedland? (The horizontal axis shows the weight in grams, and the vertical axis shows the charge in zeds.)

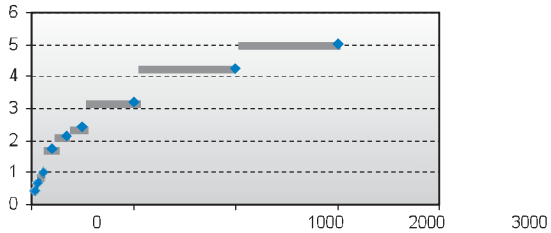
A



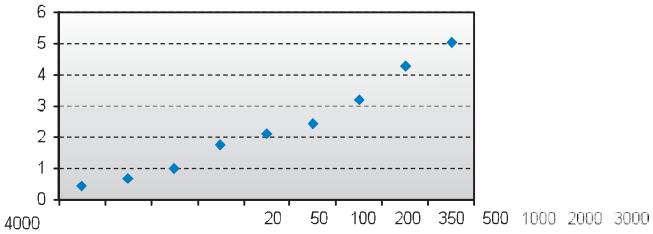
B



C



D



QUESTION 50.2

Jan wants to send two items, weighing 40 grams and 80 grams respectively, to a friend.

According to the postal charges in Zedland, decide whether it is cheaper to send the two items as one parcel, or send the items as two separate parcels. Show YOUR CALCULATIONS of the cost in each case.

Competency Based Questions from OECD's PISA Assessments Programme

SUB: Social Science **CLASS: X**

Q1: CASE STUDY

Ford Motors, an American company, is one of the world's largest automobile manufacturers with production spread over 26 countries of the world. Ford Motors came to India in 1995 and spent Rs. 1700 crore to set up a large plant near Chennai. This was done in collaboration with Mahindra and Mahindra, a major Indian manufacturer of jeeps and trucks. By the year 2004, Ford Motors was selling 27,000 cars in the Indian markets, while 24,000 cars were exported from India to South Africa, Mexico and Brazil. The company wants to develop Ford India as a component supplying base for its other plants across the globe.

(1X5= 5marks)

i- Would you say Ford Motors is a MNC? Why?

ii - What is foreign investment? How much did Ford Motors invest in India?

iii - By setting up their production plants in India, MNCs such as Ford Motors tap the advantage not only of the large markets that countries such as India provide, but also the lower costs of production. Explain the statement.

iv - In what ways is a MNC different from other companies?

v - Nearly all major multinationals are American, Japanese or European, such as Nike, Coca-Cola, Pepsi, Honda, Nokia. Can you guess why?

Q2: For how long would the crude oil reserves of the world last? (1 mark)

Q3:Analyse the given figure and explain how is the lending activities are going on in the Rural Households in India and why?

(3 marks)

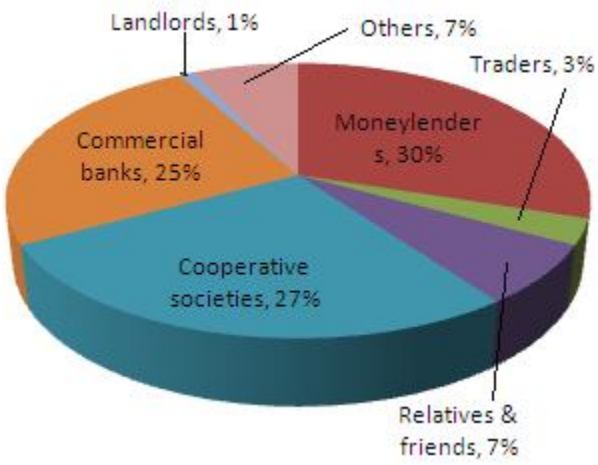


Fig: Sources of Credit for Rural Households in India in 2003

Q4: Which activity is performed by these men in the picture below? Also mention the type of sector they are working in. (1mark)

5. When the UK government and the Nationalist did reached a peace treaty?

(a) 1994
(b) 1996
(c) 1998
(d) 2000

6. Correct the following statement and rewrite:

Haldi port was developed as a subsidiary port in order to relieve growing pressure on Chennai Port.

OR

50% of seats in local government in panchayats and municipalities are reserved for women.

7. Arrange the following in the correct sequence:

(i) Chauri Chaura Incident
(ii) Khilafat Movement
(iii) Jallianwala Bagh Incident
(iv) Mahatma Ganndhi returned to india

Options:

A. (i)-(ii)-(iii)-(iv) B. (iii)-(ii)-(i)-(iv)
C. (iv)-(iii)-(ii)-(i) D. (iv)-(iii)-(ii)-(i)

8. All the major political parties in the parliament formed a seven Party Alliance (SPA) and called for four –day strike in the country's capital. This protest soon turned into an indefinite strike in which Maoist insurgent and various other organisations joined hands.
Analyse the above given statement and find which among the following country is talking about?

(a) China
(b) Bolivia
(c) Nepal
(d) Sri Lanka

9. Which of the following aspect best signifies this image of 'Bharat Mata"
(a) One's Nationalism
(b) Vande Mataram
(c) Heroism and Justice
(d) Folk and Cultural Tradition

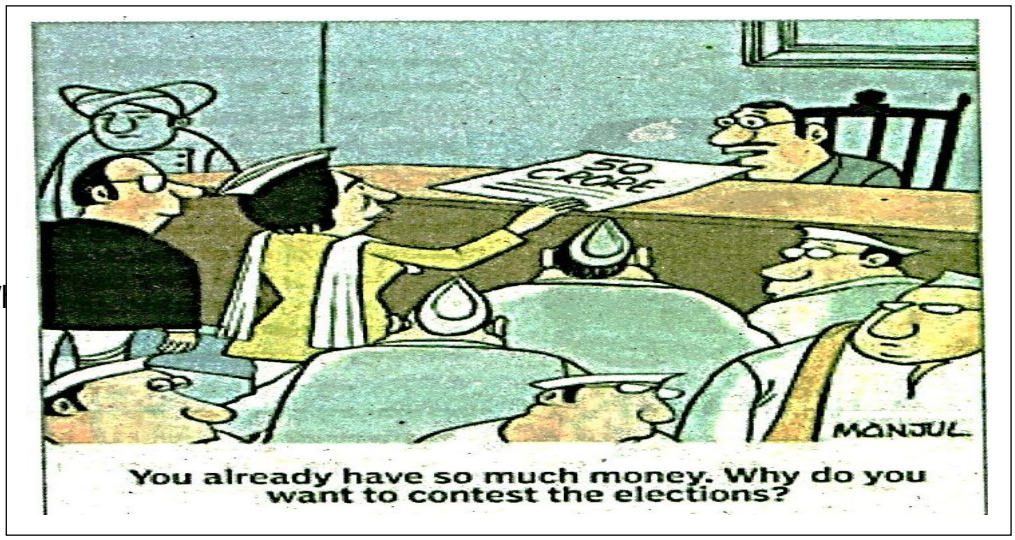
10. In the question given below, there are two statement marked as Assertion (A) and Reason. Read the statements and choose the correct option:

Assertion (A): From the very beginning, the French Revolutionaries introduced various measures and practices like the idea of new Tri-colour French Flag.
Options:

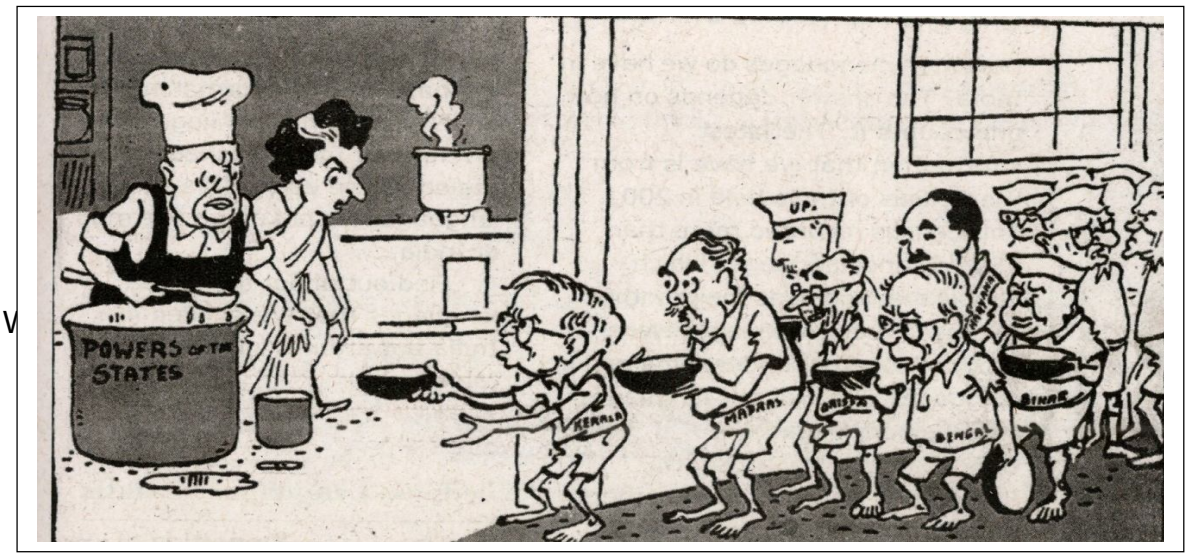
A. Both A and R are true and R is the correct explanation of A.
B. Both A and R are true but R is not the correct explanation of A.
C. A is correct but R is wrong.
D. A is wrong but R is correct.

11. The industry where the demand for labour was seasonal
(a) Breweries
(b) Iron and steel industry
(c) Cotton industry
(d) None of these

Q12. Study the picture and answer the question

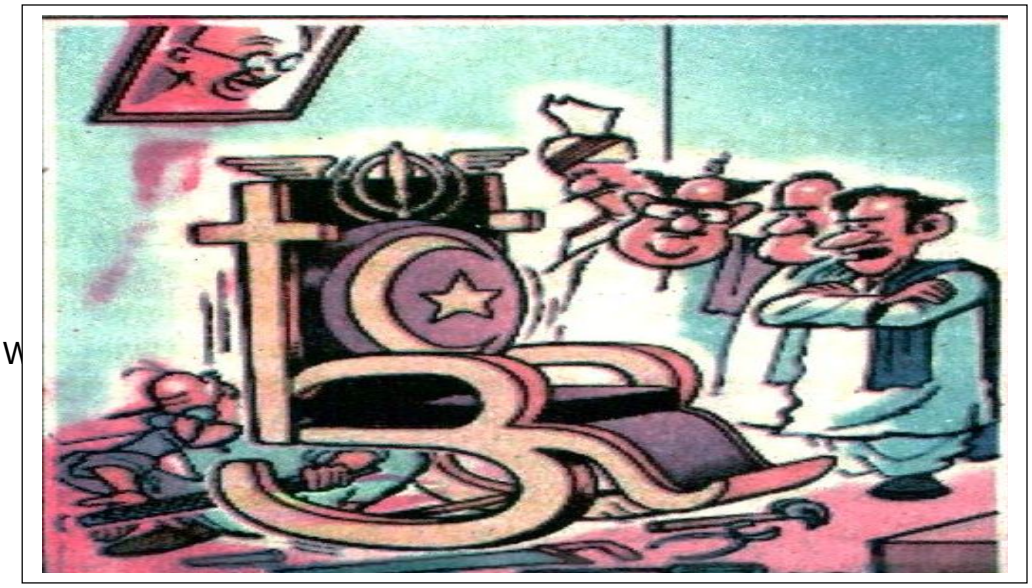


Q13.

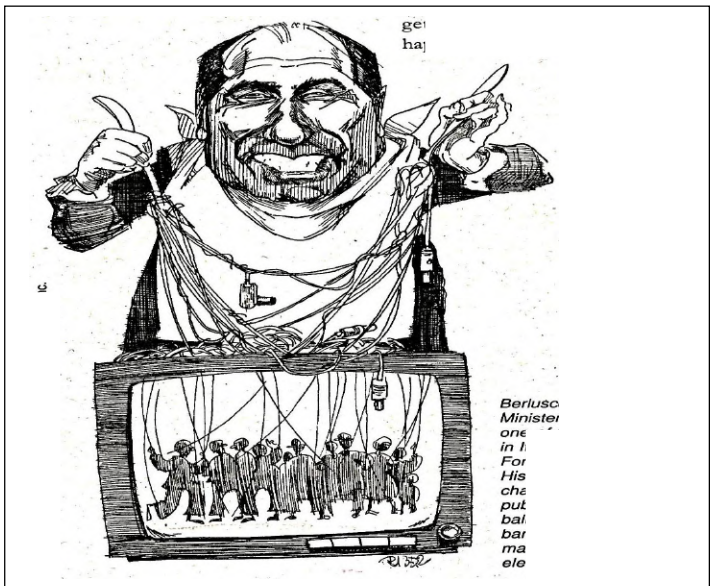


Q14.

Q15.



Q16.

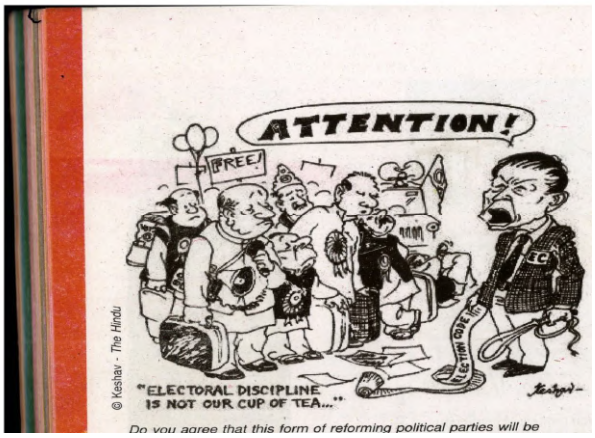


Which of the challenge is described in this cartoon?

A. Lack of internal democracy
B. Dynastic succession
C. Money and muscle power
D. Meaningful choice

Q17.

W

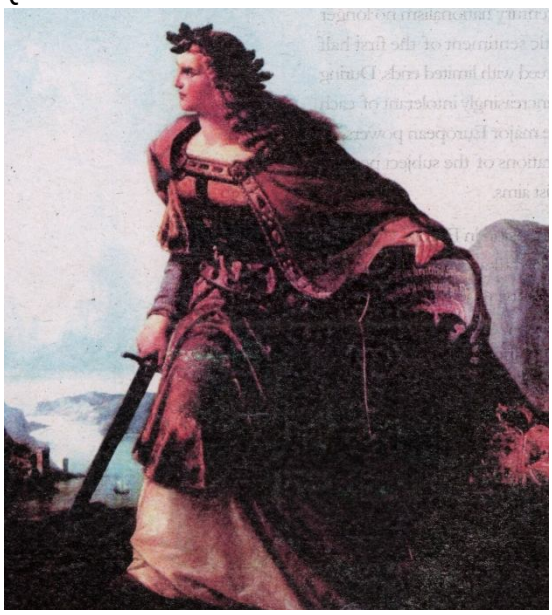


Q18.

Identify the image

A. Peasants uprising, 1848
B. The massacre at Chios
C. The fallen Germania
D. Germania guarding the Rhine

Q19.



Identify the image

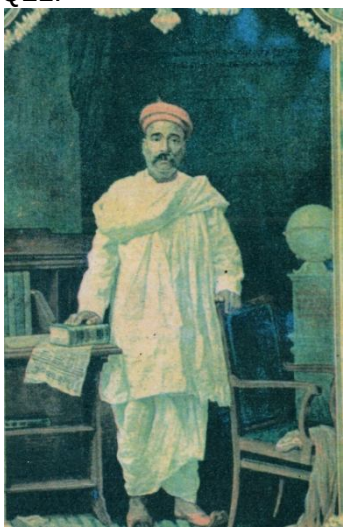
A. Peasants uprising, 1848
B. The massacre at Chios
C. The fallen Germania
D. Germania guarding the Rhine

Q. 20.

Identify the image

A. Revolt of 1857
B. Dandi march
C. The boycott of foreign cloth, 1922
D. Quit India movement

Q21.



Identify the person in image

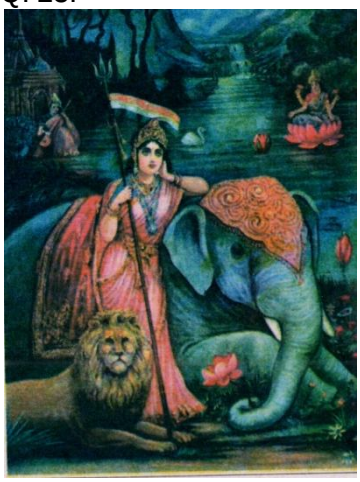
A. J.L. Nehru
B. Gandhi ji
C. B.G. Tilak
D. Jinnah

Q22.

Identify the person in image

A. J.L. Nehru
B. Gandhi ji
C. B.G. Tilak
D. Jinnah

Q. 23.



Identify the image

A. Image of bharat mata
B. Goddess Parvati
C. Rani laxmi bai
D. None of these