

Victorian Certificate of Education 2015

General Achievement Test

Wednesday 10 June 2015

Reading time: 10.00 am to 10.15 am (15 minutes)

Writing time: 10.15 am to 1.15 pm (3 hours)

QUESTION BOOK

Structure of book

<i>Type of questions</i>	<i>Number of questions to be answered</i>	<i>Suggested times (minutes)</i>	<i>Suggested time allocation</i>
Writing Task 1	1	30	10.15 – 10.45
Writing Task 2	1	30	10.45 – 11.15
Multiple-choice questions	70	120	11.15 – 1.15

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners, rulers and an English and/or bilingual dictionary.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or correction fluid/tape.
- No calculator is allowed in this examination.

Materials supplied

- Question book of 38 pages.
- Answer book for **both** Writing Task 1 and Writing Task 2.
- Answer page for multiple-choice questions on page 15 of the answer book.

Instructions

- Write your **student number** and **name** on the answer book.
- Write your **name** on the answer page for multiple-choice questions on page 15 of the answer book.
- Follow the times suggested for each task.
- You may complete the tasks in any order and you may return to any task at any time.
- Do not waste time on one particular multiple-choice question. If you find a question very difficult, return to it later.
- Answer all questions.
- All written responses must be in English.

At the end of the test

- You may keep this question book.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

WRITING TASK 1

*To be answered in the answer book in pen, not pencil.
You are advised to allocate 30 minutes to this task.*

Consider the information on these two pages.

Develop a piece of writing presenting the main information in the material. You should **not** present an argument.

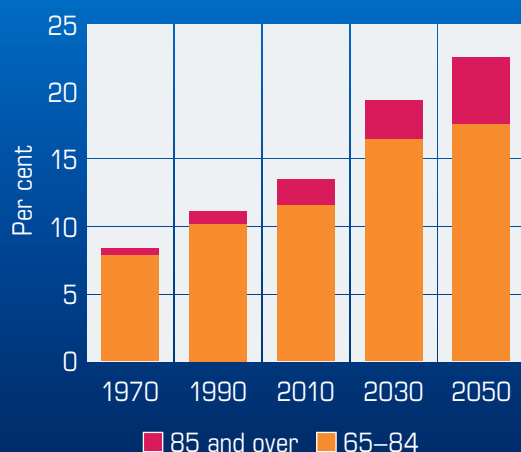
Your piece will be judged on:

- how well you organise and present your understanding of the material
- your ability to communicate the information effectively
- how clearly you express yourself.

Possible cityscape 2050

Due to copyright restrictions,
this material is not supplied.

Projected proportion of the Australian population aged 65+



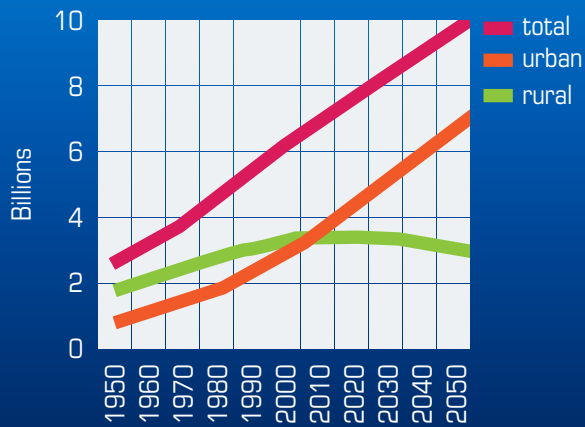
Due to copyright restrictions,
this material is not supplied.

Predicted use of robots 2050

- Medical surgery
- Domestic chores
- Delivery drones
- Industry and manufacturing
- Humanoid companions
- Nano-robots inside our bodies to enhance senses
- Cars and driving
- Space exploration for alternative living environments

Projected world population

Urban and Rural 1950–2050



60 BILLION

LAND ANIMALS

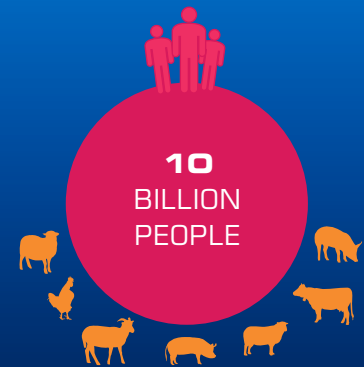
2012



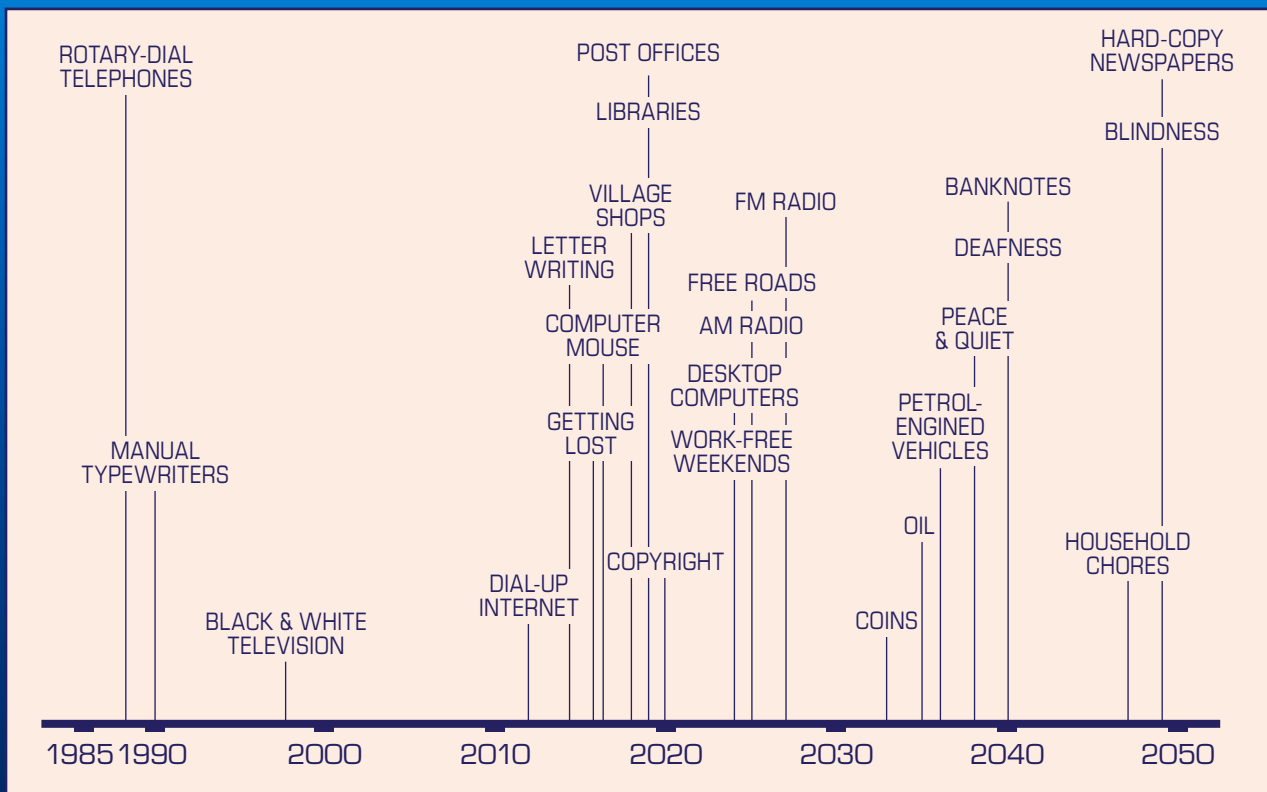
100 BILLION

LAND ANIMALS

2050



Past and predicted 'extinction' timeline 1985–2050



Food in 2050?



100 grams insect

121 calories

12.9 g protein

5.5 g fat

15.1 g carbohydrates

75.8 mg calcium

9.5 mg iron

production needs
almost no water



100 grams beef

232 calories

21.3 g protein

15.6 g fat

0 g carbohydrates

30 mg calcium

2.09 mg iron

production needs
2193 litres of water

Due to copyright restrictions,
this material is not supplied.

WRITING TASK 2

***To be answered in the answer book in pen, not pencil.
You are advised to allocate 30 minutes to this task.***

Consider the statements below.

Based on **one** or **more** of the statements, develop a piece of writing presenting your point of view.

Your piece of writing will be judged on:

- the extent to which you develop your point of view in a reasonable and convincing way
- how effectively you express yourself.

Important milestones in our lives need to be marked by celebrations or formal ceremonies in order to give our lives meaning.

Ceremonies can sometimes be so formal and restrictive that they make some people feel excluded.

Many of the ceremonies and rituals we celebrate today are boring and belong to the past.

Traditional ceremonies bring us together to celebrate our social and cultural history.

MULTIPLE-CHOICE QUESTIONS

*Answer this section in the GAT ANSWER BOOK.
Mark your answers on the Multiple-Choice Answer Page.*

You are advised to allocate 2 hours to this task.

Choose the response that is **correct**, or that **best answers the question**, and shade the square on the answer page for multiple-choice questions according to the instructions on that page.

A correct answer is worth 1 mark, an incorrect answer is worth 0 marks. No marks will be given if more than one answer is shown for any question. Marks will **not** be deducted for incorrect answers.

UNIT 1

Questions 1 – 4

The following passage is the beginning of a short story by Emily Ballou.

Due to copyright restrictions,
this material is not supplied.

- 1 Which of the following most accurately describes what the spectacle of the woman provided for the crowd?
 - A a dramatic surprise
 - B a diversion from tedium
 - C a frustrating disappointment
 - D an opportunity for one-upmanship

- 2 For the woman, travel is
 - A a hard-won privilege.
 - B a wearisome diversion.
 - C an unavoidable torment.
 - D a controlled means of escape.

- 3 The passage suggests that at the beginning of her career, the woman was
 - A brash and confident.
 - B naive and unrealistic.
 - C lonely and uncertain.
 - D dogged and persistent.

- 4 The passage indicates that the crowd
- A is divided in its loyalty to the woman.
 - B is united in its admiration of the woman.
 - C does not consider how the woman feels.
 - D does not approve of the woman being 'fast-tracked'.

UNIT 2

Question 5

Below is a cartoon by Sidney Harris.

Due to copyright restrictions,
this material is not supplied.

- 5 Which of the following is most strongly suggested by the cartoon?
- A People are no longer self-absorbed.
 - B People have become more inventive.
 - C What is needed for survival has changed.
 - D What is needed for protection has not changed.

UNIT 3

Questions 6 – 9

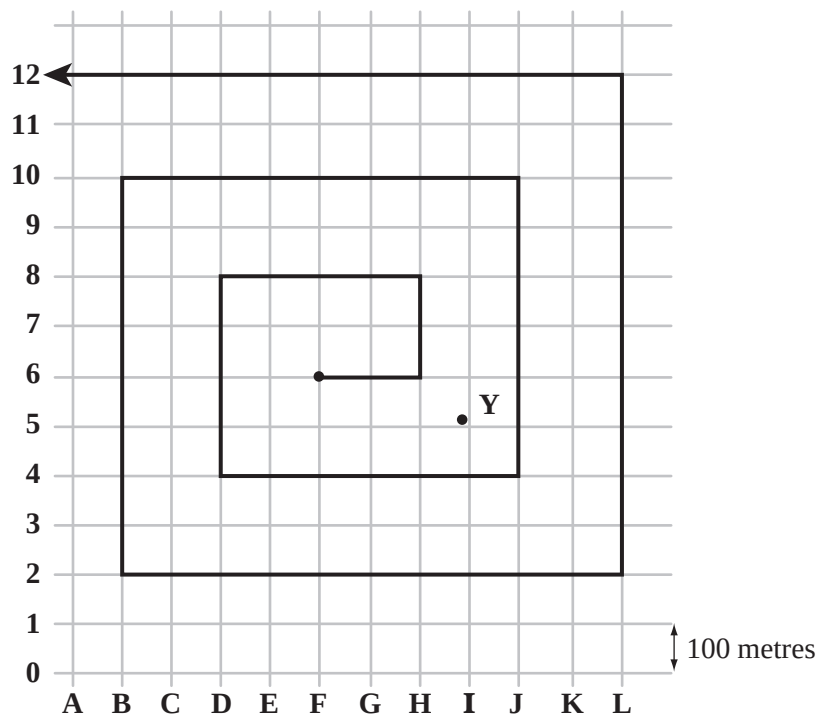
When an object is lost from a ship at sea, a *square search* may be used to look for it.

Starting at the lost object's most likely position (for example, point **F6** in the figure), the search follows straight segments, called *legs*. At the end of each leg, the searching ship turns 90°, either clockwise or anticlockwise (the same way throughout a search).

The lengths of the search legs are related to the greatest distance from the searching ship at which the object can be seen. This distance is known as the *maximum detectable distance* (MDD).

For the search represented in the figure, the MDD equals 100 m. The side of each small grid square represents a distance of 100 m. The ship's path is such that the difference in length between one leg and the next parallel leg is twice the MDD.

- Assume that when the searching ship is at a distance equal to, or less than, the MDD from the object, the object can be seen.
- Point **Y** represents the location of a lost object.



- 6 The length of the first leg of the square search illustrated in the figure is equal to
- A half the MDD.
 - B the MDD.
 - C one and a half times the MDD.
 - D twice the MDD.
- 7 For the square search illustrated in the figure, the length of the 17th leg will be
- A 1.4 km.
 - B 1.8 km.
 - C 2.8 km.
 - D 3.4 km.
- 8 Suppose the first leg of the square search illustrated in the figure (**F6** to **H6**) is 1 unit long. Which of the following gives l_n , the length of leg number n ?
- A In all cases, $l_n = \frac{n}{2}$ units.
 - B In all cases, $l_n = \frac{n+1}{2}$ units.
 - C If n is odd, $l_n = \frac{n+1}{2}$ units; if n is even, $l_n = \frac{n}{2}$ units.
 - D If n is even, $l_n = \frac{n+1}{2}$ units; if n is odd, $l_n = \frac{n}{2}$ units.
- 9 Suppose the lost object is at point **Y** (which lies on a straight line between points **I5** and **H6**, five metres north-west of **I5**). According to the figure, the object at point **Y** would
- A be found on the first leg.
 - B be found on the second leg.
 - C be found on the fifth leg.
 - D not be found in this search.

UNIT 4

Questions 10 – 12

Below is a diagram showing two processes through which formal change occurs in organisations. These two processes are known as Single Loop Learning and Double Loop Learning.

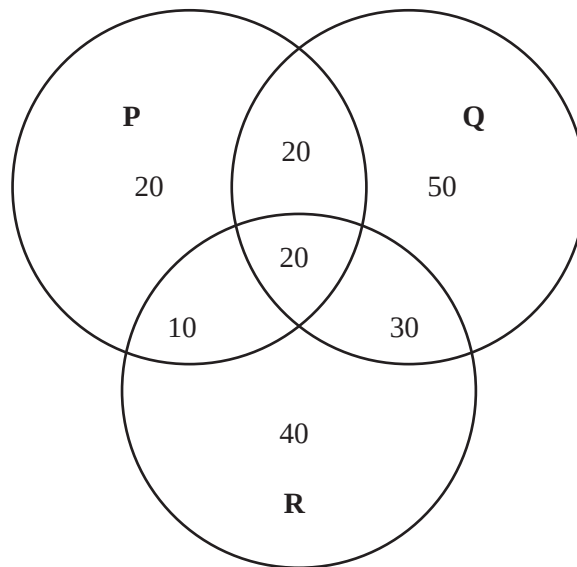
Due to copyright restrictions,
this material is not supplied.

- 10 All of the following statements are possible for Single Loop Learning except one.
Which statement is **not** possible for Single Loop Learning?
- A Action strategies are developed.
 - B The current situation is examined.
 - C The current situation remains unchanged.
 - D New values and assumptions are developed.
- 11 Which of the following questions asked by an organisation about increasing sales indicates that Double Loop Learning has been used?
- A How can we increase sales?
 - B Have sales increased since last year?
 - C Is increasing sales the main goal of the organisation?
 - D Is the current strategy of selling on the web working?
- 12 Which of the following is specific to Single Loop Learning?
- A designing action strategies
 - B assessing possible corrections
 - C observing the current situation
 - D implementing action strategies

UNIT 5

Questions 13 – 16

Three brands of perfume, **P**, **Q** and **R**, are available for purchase in one shop. During a month, 190 people purchased bottles of perfume, as shown in the figure.



The likelihood that a person who purchased Brand **P** also purchased Brand **Q** is given by the *Affinity Index*.

Affinity Index (**PQ**) =

$$\frac{(\text{People who purchased both } \mathbf{P} \text{ and } \mathbf{Q}) \times (\text{People who purchased neither } \mathbf{P} \text{ nor } \mathbf{Q})}{(\text{People who purchased } \mathbf{Q} \text{ but not } \mathbf{P}) \times (\text{People who purchased } \mathbf{P} \text{ but not } \mathbf{Q})}$$

Note: People who purchased both **P** and **Q** include people who purchased **P**, **Q** and **R**.

13 In total, how many people purchased **Q** in the month?

- A** 50
- B** 80
- C** 100
- D** 120

14 Of those who purchased **P**, how many also purchased **R** in the month?

- A** 10
- B** 20
- C** 30
- D** 40

- 15 Which of the following expressions corresponds to Affinity Index (**PQ**) for the month?
- A $\frac{40 \times 40}{50 \times 20}$
- B $\frac{40 \times 40}{80 \times 30}$
- C $\frac{70 \times 40}{50 \times 20}$
- D $\frac{150 \times 100}{120 \times 70}$
- 16 Suppose that during the next month, the number of people who purchased both **P** and **R** doubled and the number of people who purchased neither **P** nor **R** halved, but all other values remained the same.
- It follows that Affinity Index (**PR**) will
- A remain the same.
- B halve.
- C double.
- D be one-quarter the size.

UNIT 6

Questions 17 and 18

Suppose that $n\textcircled{4} = n(n-1)(n-2)(n-3)$, where n is any positive whole number.

- 17 If $n = 6$, what is the value of $n\textcircled{4}$?
- A 120
- B 240
- C 360
- D 720
- 18 What is the last digit of $13\textcircled{4}$?
- A 0
- B 1
- C 3
- D 6

UNIT 7

Questions 19 – 21

The following poem describes stopping on a train at a station lit by gaslight, at a fictional Australian place called Raptown.

The Night-Ride

Gas flaring on the yellow platform; voices running up and down;
 Milk-tins in cold dented silver; half-awake I stare,
 Pull up the blind, blink out—all sounds are drugged;
 the slow blowing of passengers asleep;
 engines yawning; water in heavy drips; 5
 Black, sinister travellers, lumbering up the station,
 one moment in the window, hooked over bags;
 hurrying, unknown faces—boxes with strange labels—
 all groping clumsily to mysterious ends,
 out of the gaslight, dragged by private Fates, 10
 their echoes die. The dark train shakes and plunges;
 bells cry out, the night-ride starts again.
 Soon I shall look out into nothing but blackness,
 pale, windy fields, the old roar and knock of the rails
 melts in dull fury. Pull down the blind. Sleep. Sleep 15
 Nothing but grey, rushing rivers of bush outside.
 Gaslight and milk-cans. Of Raptown I recall nothing else.

Kenneth Slessor

19 The view from the train window seems

- A surprising and inviting.
- B dynamic and impressive.
- C familiar and uninteresting.
- D fragmentary and unintelligible.

20 The speaker in the poem seems

- A distracted.
- B fascinated.
- C inattentive.
- D disoriented.

- 21 The poem works by
- A analysis and reflection.
 - B telling a dramatic story.
 - C making normality unsettling.
 - D celebrating the physical world.

UNIT 8

Question 22



“O.K., the role you’re auditioning for is a struggling actress who’s always boring people with stories of how this one or that one got the part she deserved because she’s younger or prettier. Think you can handle it?”

- 22 The expression on the woman’s face suggests that she
- A thinks she is unsuited to the role.
 - B is intimately familiar with the role.
 - C does not understand what is required.
 - D is humiliated by the suggestion that she can’t ‘handle it’.

UNIT 9

Questions 23 – 25

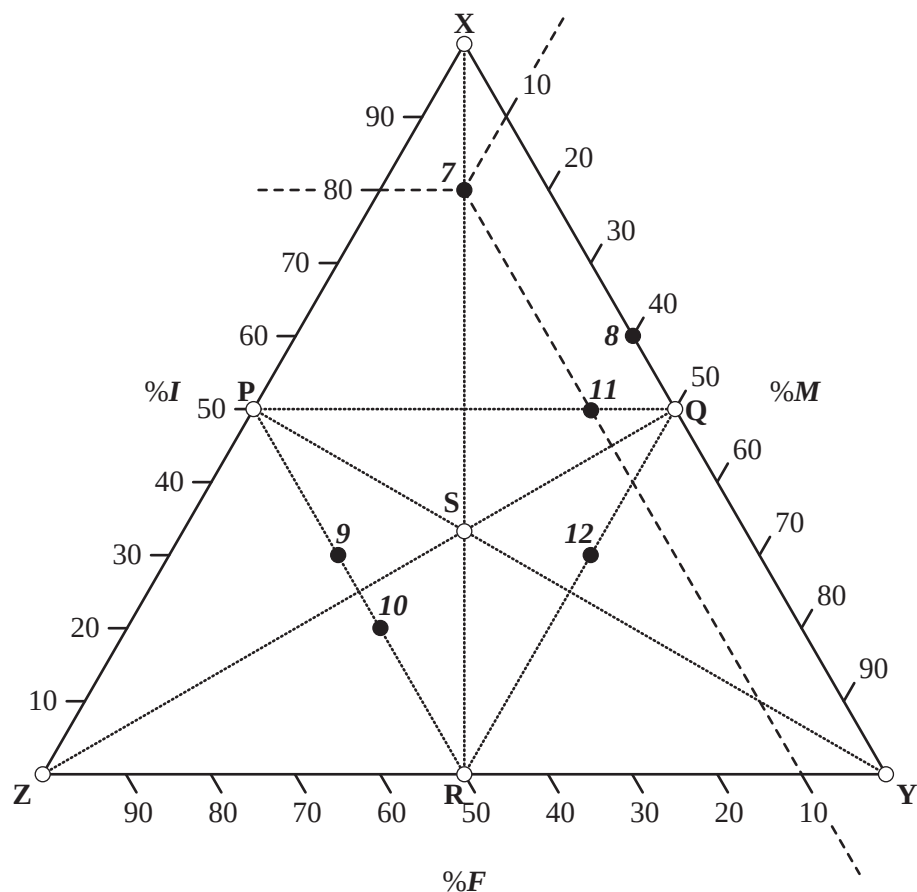
A survey was conducted to determine how often students in each year level of a school (labelled 7–12) used the school canteen.

Participants were described as:

- infrequent users (*I*) who use the canteen at most once a month
- moderate users (*M*) who use the canteen more than once a month but no more than once a week
- frequent users (*F*) who use the canteen more than once a week.

For each year level, the diagram shows the percentage of students of types *I*, *M* and *F*. For example, of Year 7 students, 10% are classified as frequent users, 10% as moderate users and 80% as infrequent users.

The points **P**, **Q**, **R**, **S**, **X**, **Y** and **Z** have been added to the diagram to divide the graph into regions.



- 23 Which of the following pairs of year levels contains the same percentage of moderate canteen users?
- | | |
|-------------------|--------------------|
| A 8 and 11 | C 9 and 12 |
| B 9 and 10 | D 11 and 12 |
- 24 Which of the following is always true inside the region **ZPR**?
- | | |
|---------------------|----------------------------|
| A $\%F < 50$ | C $\%F > \%I > \%M$ |
| B $\%F > 50$ | D $\%F > \%M > \%I$ |
- 25 Which of the following is always true inside the region **XPS**?
- | | |
|----------------------------|----------------------------|
| A $\%F > \%I > \%M$ | C $\%I > \%F > \%M$ |
| B $\%F > \%M > \%I$ | D $\%I > \%M > \%F$ |

UNIT 10

Questions 26 and 27

Suppose $x \odot y = x + y + xy$, where x and y are positive integers (1, 2, 3, ...). Note that x and y can have the same value.

- 26 If $x \odot y = 14$, y could be
- | |
|---------------------------|
| A 2 only. |
| B 4 only. |
| C either 2 or 4. |
| D neither 2 nor 4. |
- 27 If $x \odot y = 11$, y could be
- | |
|-------------------------------|
| A either 1 or 5 only. |
| B either 2 or 3 only. |
| C any of 1, 2, 3 or 4. |
| D any of 1, 2, 3 or 5. |

UNIT 11

Questions 28 – 32

In 1932 the Mexican artist Diego Rivera was commissioned to paint a series of murals called ‘Detroit Industry’ celebrating the city’s industrial achievements. Below are two illustrations from this series, reproduced in black and white. Illustration I is of one of the murals. Illustration II is detail from another mural.

Due to copyright restrictions,
this material is not supplied.

The following letter appeared in an American newspaper in response to a book about the murals.

LETTERS: DETROIT AND THE ARTS: Rivera’s Murals

To the editor: Re “Industrial Strength in the Motor City”

I strongly disagree with your interpretations of Diego Rivera’s murals. I grew up with these murals, and I can assure you that even in mid-century, no one in Detroit viewed them as depicting “laborers of all races working in unison for the good of the industry”, much less losing their “ethnic identities to become Americans”.

Rather, they were instantaneously and correctly perceived as profoundly radical social criticism that is both angry and compassionate. They were offensive to many in the community.

When it comes to themes of race, injustice and social dislocation, every artist working today sits at Rivera’s feet.

- 28 The following phrases have been used in commentaries referring to some of Diego Rivera's murals.

Which one of the following does **not** apply to **I** and **II**?

- A 'worker integrity'
- B 'worker agitation'
- C 'industrial strength'
- D 'complex industrial machine'

- 29 Which pair most accurately summarises **I** and **II**?

I emphasises ...

- A chaos and disorder
- B variation and novelty
- C incompatibility and disharmony
- D symmetry and motion

II emphasises ...

- power and control
- weakness
- energetic competition
- quiet productivity

- 30 In the final comment of the letter, the writer implies that 'every artist' should

- A learn from Rivera.
- B reproduce Rivera's style.
- C question Rivera's opinions.
- D aspire to be superior to Rivera.

- 31 The writer of the letter appears to be most interested in Rivera's

- A artistic style.
- B populist appeal.
- C social standing.
- D political viewpoint.

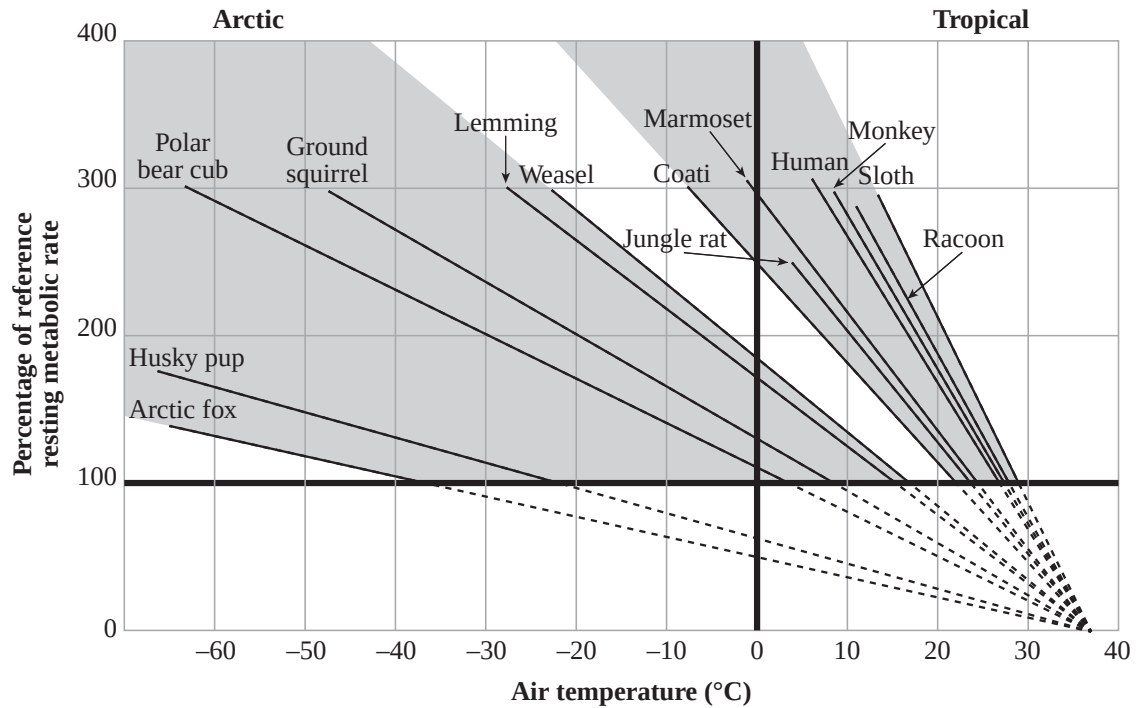
- 32 The comments in the letter suggest that the community reaction at the time when Rivera painted the murals was

- A both adulatory and condemnatory.
- B unfair probably because Rivera was Mexican.
- C too political, thereby diminishing their artistic merit.
- D focused too much on the negative aspects of industry.

UNIT 12

Questions 33 – 36

The graph below indicates the relationship between air temperature and the resting metabolic rate of various mammals. The *reference resting metabolic rate*, which corresponds to 100% on the graph, is the energy used daily by mammals at rest at an optimum air temperature.



Mammals undergo cold stress when air temperature drops below the optimum level, and respond by increasing metabolic rate.

- 33 For a drop in air temperature from 15 °C to 5 °C, which of the following is the best estimate of the change in the resting metabolic rate of the lemming?
- A decreases by 50%
 - B increases by 50%
 - C decreases by 100%
 - D increases by 100%

- 34 According to the graph, which of the following statements is true?
When compared with an arctic mammal, a tropical mammal has a
- A larger increase in percentage resting metabolic rate for the same decrease in temperature.
 - B smaller increase in percentage resting metabolic rate for the same decrease in temperature.
 - C larger increase in percentage resting metabolic rate for the same increase in temperature.
 - D smaller increase in percentage resting metabolic rate for the same increase in temperature.
- 35 Compared with the reference resting metabolic rate, the polar bear cub's resting metabolic rate doubles with a drop in temperature that is closest to
- A 25 °C.
 - B 35 °C.
 - C 50 °C.
 - D 65 °C.
- 36 Which of the following animals responds most to cold stress when air temperature drops 5 °C below the optimum?
- A sloth
 - B coati
 - C weasel
 - D arctic fox

UNIT 13

Questions 37 – 40

The following passage is from a novel by Jim Lynch, about a 13-year-old boy who has grown up on the mudflats of Puget Sound, an inland waterway on the west coast of the United States of America.

I learned early on that if you tell people what you see at low tide they'll think you're exaggerating or lying when you're actually just explaining strange and wonderful things as clearly as you can. Most of the time I understated what I saw because I couldn't find words powerful enough, but that's the nature of marine life and the inland bays I grew up on. You'd have to be a scientist, a poet and a comedian to hope to describe it all accurately, and even then you'd often fall short. The truth is I sometimes lied about where or when I saw things, but take that little misdirection away and I saw everything I said I saw and more. 5

Most people realise the sea covers two thirds of the planet, but few take the time to understand even a gallon¹ of it. Watch what happens when you try to explain something as basic as the tides, that the suction of the moon and the sun creates a bulge across the ocean that turns into a slow and sneaky yet massive wave that covers our salty beaches twice a day. People look at you as if you're making it up as you go. Plus, tides aren't news. They don't crash like floods or exit like rivers. They operate beyond the fringe of most attention spans. 10 15

Anyone can tell you where the sun is, but ask where the tides are, and only fishermen, oystermen and deep-keeled sailors will know without looking. I grew up hearing seemingly intelligent grown-ups say 'what a beautiful lake,' no matter how many times we politely educated them it was a briny backwater connected to the world's largest ocean. We'd point to charts that showed the Strait of Juan de Fuca inhaling the Pacific all the way down to our shallow, muddy bays at the southern end of Puget Sound. It still wouldn't stick. It was the same way with beach scavengers. There was no way to make them understand they were tromping across the roofs of clam condos. Most people don't want to invest a moment contemplating something like that unless they happen to stroll low tide alone at night with a flashlight and watch life bubble, skitter and spit in the shallows. Then they'll have a hard time not thinking about the beginnings of life itself and of an earth without pavement, plastic or Man ... 20 25

I often read bits of *The Sea Around Us* by Rachel Carson² aloud. 'There is no drop of water in the ocean, not even in the deepest parts of the abyss, that does not know and respond to the mysterious forces that create the tide.' 30

How do you read that sentence, yawn and turn out the lights?

¹ *gallon*: a unit of liquid measurement, about 3.8 litres

² *Rachel Carson*: an American marine biologist (1907–1964) who was very influential in the early environmental movement

37 The writer's reaction to visitors to Puget Sound has become one of

- | | |
|-------------------------|--------------------|
| A resigned frustration. | C vague amusement. |
| B stunned disbelief. | D open hostility. |

38 In lines 1–6, the writer suggests that his descriptions of Puget Sound are

- | | |
|----------------|-----------------|
| A deceitful. | C inadequate. |
| B fantastical. | D melodramatic. |

- 39 The writer's attitude towards Puget Sound is best described as
- A impartial.
 - B passionate.
 - C ambiguous.
 - D provocative.
- 40 Which of the following most clearly expresses what the writer feels about Puget Sound?
- A 'The truth is I sometimes lied about where or when I saw things' (lines 6 and 7)
 - B 'tides aren't news' (line 14)
 - C 'what a beautiful lake' (line 18)
 - D 'How do you read that sentence, yawn and turn out the lights?' (line 32)

UNIT 14

Questions 41 and 42

In a hearing test, sounds at four different frequencies are played to an infant. Sound frequencies are measured in hertz (Hz) and the test uses frequencies of 500 Hz, 1000 Hz, 2000 Hz and 4000 Hz. Each sound is played at a volume of 25 decibels (dB). Whether or not the infant can hear the sound in each ear is determined. If the infant fails to hear a sound, the volume of that sound is raised to 35 dB and played again. If the infant hears the 35 dB sound, the next sound is played at 25 dB.

An infant is considered to have *failed* the hearing test if he or she:

- I fails to hear any one or more of the sounds at 35 dB in either ear
- II fails to hear any two of the sounds at 25 dB in the same ear.

An infant who fails the hearing test is given another hearing test identical to the first within two weeks. An infant who passes either hearing test is considered to have *normal* hearing.

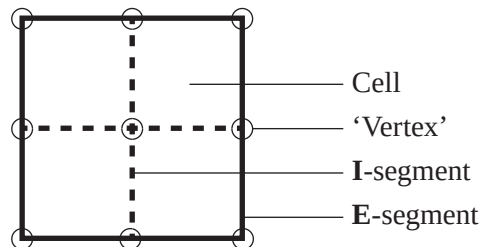
- 41 Which of the following results would always be considered a failed hearing test?
- The infant fails to hear
- A 1000 Hz at 25 dB in both ears.
 - B 500 Hz at 25 dB in the right ear and 1000 Hz at 25 dB in the left ear.
 - C 500 Hz at 25 dB in the right ear and 1000 Hz at 25 dB in the right ear.
 - D 4000 Hz at 25 dB in the left ear and 1000 Hz at 25 dB in the right ear.
- 42 Consider an infant who fails the first hearing test but passes the second.
- Which of the following is consistent with the conclusion that the infant has normal hearing?
- The infant could not hear
- A 1000 Hz at 35 dB in either ear in both tests.
 - B 1000 Hz at 35 dB in either ear in the second test only.
 - C 1000 Hz, 2000 Hz and 4000 Hz at 35 dB in either ear in the first test only.
 - D 1000 Hz at 35 dB in the first test and 2000 Hz at 35 dB in the second test only.

UNIT 15

Questions 43 – 46

Square grids are composed of a number of smaller squares (cells).

The grid below is categorised as a size 2 grid because it has two cells forming each of its four sides.



As shown, a size 2 grid has:

- four cells
- nine 'vertices' (corners of small squares that may be common, indicated by circles)
- twelve line segments, consisting of eight **E**-segments (external segments, indicated by solid lines) and four **I**-segments (internal segments, indicated by dashed lines).

In any grid, cells bounded only by interior segments are named $\mathbf{E}_0\mathbf{I}_4$ cells, while those bounded by two exterior and two interior segments are named $\mathbf{E}_2\mathbf{I}_2$ cells. The same naming rule is used for other cell types.

43 How many $\mathbf{E}_0\mathbf{I}_4$ cells are there in a size 5 grid?

- A** 4
- B** 9
- C** 16
- D** 25

44 How many 'vertices' are there in a size 5 grid?

- A** 36
- B** 32
- C** 24
- D** 20

Questions 45 and 46 refer to square grids of size n , where n is greater than, or equal to, 3.

45 Which of the following is **not** always true of a size n grid?

- A Number of E_1I_3 cells = $4(n - 2)$
- B As n increases, the number of E_2I_2 cells remains the same.
- C Each such grid contains at least one E_0I_4 cell.
- D $\frac{\text{Number of } E_1I_3 \text{ cells}}{\text{Number of } E_0I_4 \text{ cells}} > 1$

46 What is the difference between the number of 'vertices' in a size n grid and a size $(n + 1)$ grid?

- | | |
|-----------|------------|
| A $n + 1$ | C $2n + 1$ |
| B $n + 2$ | D $2n + 3$ |

UNIT 16

Question 47

Below is a cartoon by Roz Chast.



47 According to the cartoon, the news cycle aims to

- | | |
|-------------|----------------------|
| A reassure. | C raise awareness. |
| B alarm. | D sweeten the truth. |

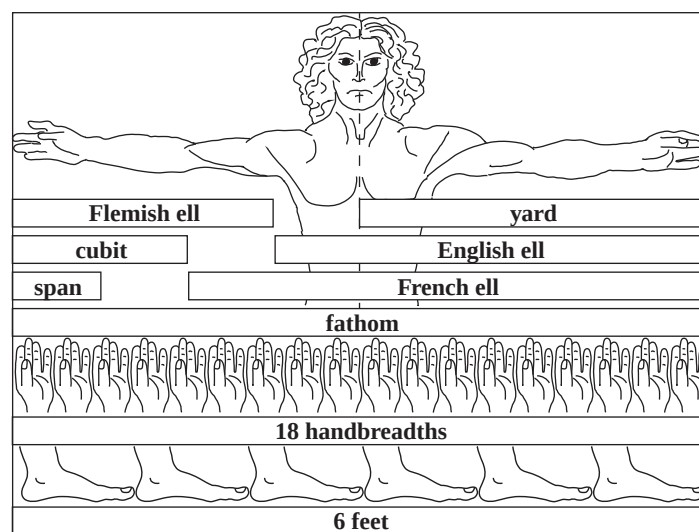
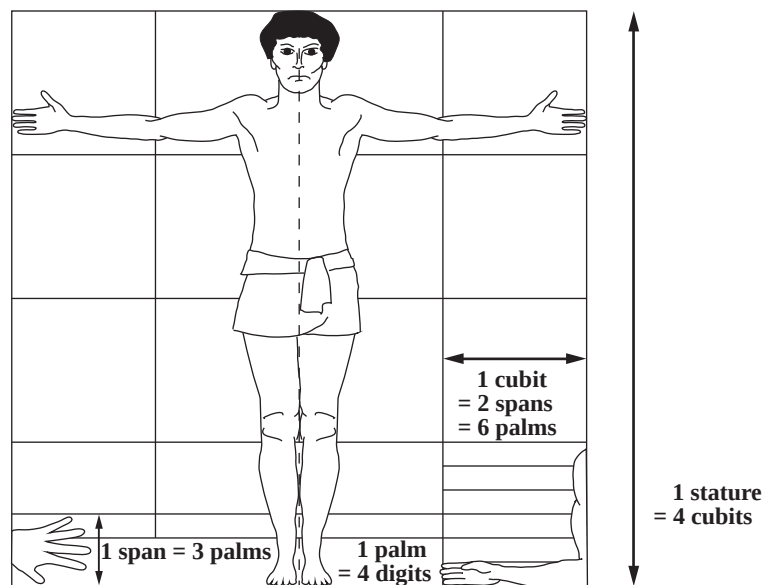
UNIT 17

Questions 48 – 50

Some ancient units of length were based on typical body dimensions as indicated in the two diagrams, each for a different system of units. Each diagram is a scale drawing but the scales differ between the diagrams. Various relationships are indicated in the diagrams (e.g. 1 palm = 4 digits).

Assume that:

- each of the 16 squares in the top diagram represents an area of 1 cubit $\times$ 1 cubit
- a cubit represents the same length (in centimetres) in both systems
- in both systems, a cubit is the length between the elbow and the extended fingertips, or the midline of the body and the elbow
- the bodies in the two diagrams, though shown as different sizes, have the same proportions.



Note: Answer all questions using only the information provided.

48 The length of a cubit and a French ell combined equals that of

- A** an English ell and a Flemish ell combined.
- B** a cubit, a span and a yard combined.
- C** a Flemish ell and 4 spans combined.
- D** a yard and 8 handbreadths combined.

49 The difference between an English ell and a yard

- A** is 1 palm.
- B** is 2 palms.
- C** is 3 palms.
- D** cannot be given as a whole number of palms.

50 How many digits are there in a foot?

- A** 20
- B** 16
- C** 12
- D** 8

UNIT 18

Questions 51 and 52

Due to copyright restrictions,
this material is not supplied.

Questions 51 and 52 refer to the diagram on the opposite page.

- 51 The diagram as a whole suggests that the development of the child occurs
- A precisely, along inflexible pathways.
 - B sequentially, and is relatively flexible.
 - C unpredictably, and is somewhat random.
 - D unsystematically, and is an indefinite procedure.
- 52 Which one of the following ‘expert statements’ on child development is most reflected by the diagram?
- A The ability to relate to other humans is the most important ability to master.
 - B Children learn most easily when they model their behaviour on those around them.
 - C The quality of care-giving in children’s early years determines how well they progress.
 - D Researchers have reached a general consensus about the markers for child development.

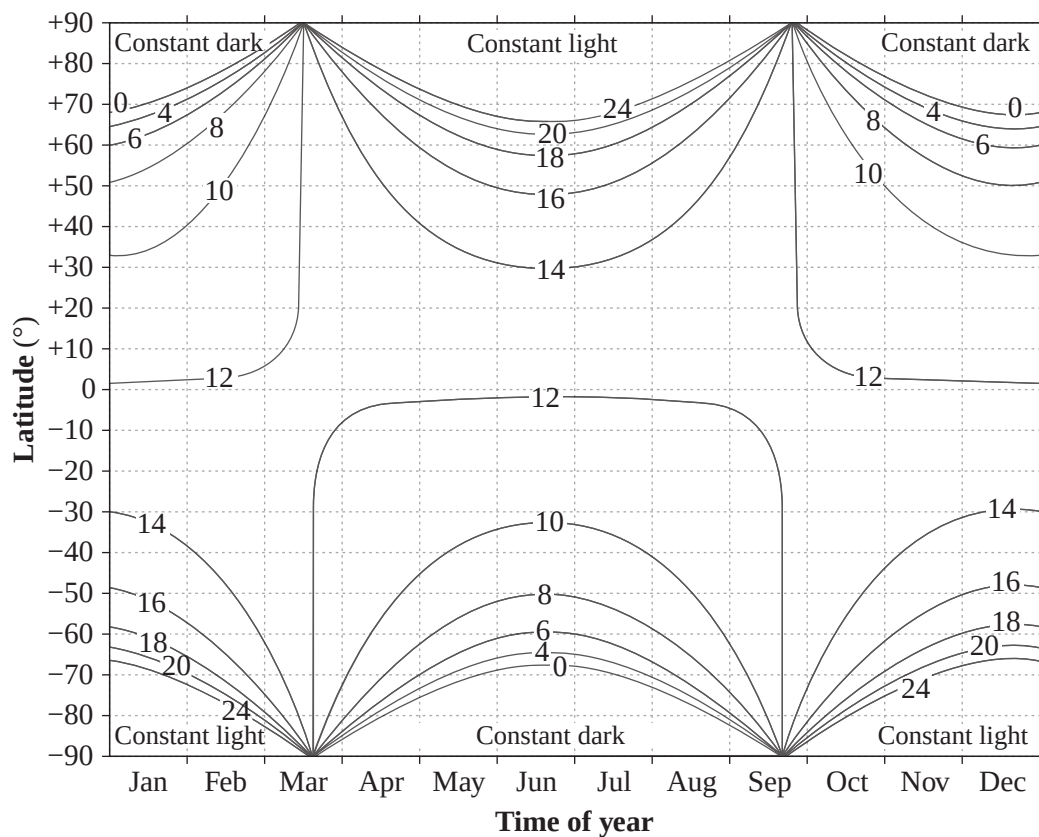
UNIT 19

Questions 53 – 56

The figure below shows the number of hours of daylight each day during each month of a year for places on Earth that are at different distances from the equator (i.e. at different latitudes).

Latitude ranges from $+90^\circ$ at the North Pole to -90° at the South Pole. At the equator, latitude equals 0° .

- The number on each line in the graph represents the number of hours of daylight per 24-hour day.
- The approximate latitude of some cities is given in the table below.



City	Latitude (approx.)	City	Latitude (approx.)
Hammerfest	$+70^\circ$	Nairobi	0°
Stockholm	$+60^\circ$	Lima	-10°
Brussels	$+50^\circ$	Townsville	-20°
New York	$+40^\circ$	Brisbane	-30°
Cairo	$+30^\circ$	Hobart	-40°

- 53 Compared with New York at the start of February, for Stockholm there is
- A two hours less daylight per day.
 - B four hours less daylight per day.
 - C six hours less daylight per day.
 - D eight hours less daylight per day.
- 54 When would Nairobi have less than 12 hours of daylight per day?
- A all of June
 - B all of October
 - C first week of September
 - D at no time during the year
- 55 For Stockholm, which of the following is the best estimate of the difference between the number of hours of daylight per day in the shortest and longest days?
- A 13 hours
 - B 15 hours
 - C 17 hours
 - D 19 hours
- 56 Of the following, when would Hobart have exactly 10 hours of daylight per day?
- A end of January
 - B mid June
 - C end of July
 - D mid November

UNIT 20

Questions 57 – 61

The following is from a memoir by Stephen Fry.

I really must stop saying sorry; it doesn't make things any better or worse. If only I had it in me to be all fierce, fearless and forthright instead of forever sprinkling my discourse with pitiful retractions, apologies and prevarications. It is one of the reasons I could never have been an artist, either of a literary or any other kind. All the true artists I know are uninterested in the opinion of the world and wholly unconcerned with self-explanation. Self-revelation, yes, and often, but never self-explanation. Artists are strong, bloodyminded, difficult and dangerous. Fate, or laziness, or cowardice cast me long ago in the role of entertainer, and that is what I found myself, throughout my twenties, becoming, though at times a fatally over-earnest, over-appeasing one, which is no kind of entertainer at all, of course. Wanting to be liked is often a very unlikeable characteristic.

57 In lines 1–3, Fry is

- A aspiring to be different from what he actually is.
- B proposing that he is determined to change his ways.
- C arguing that people see him in a certain way that is incorrect.
- D suggesting that people can never make up their minds about what sort of person he is.

58 In lines 7–10, Fry is suggesting that he is

- A too melancholy to be entertaining.
- B underappreciated as an entertainer.
- C too concerned about others' opinions.
- D popular only with those who appreciate introspection.

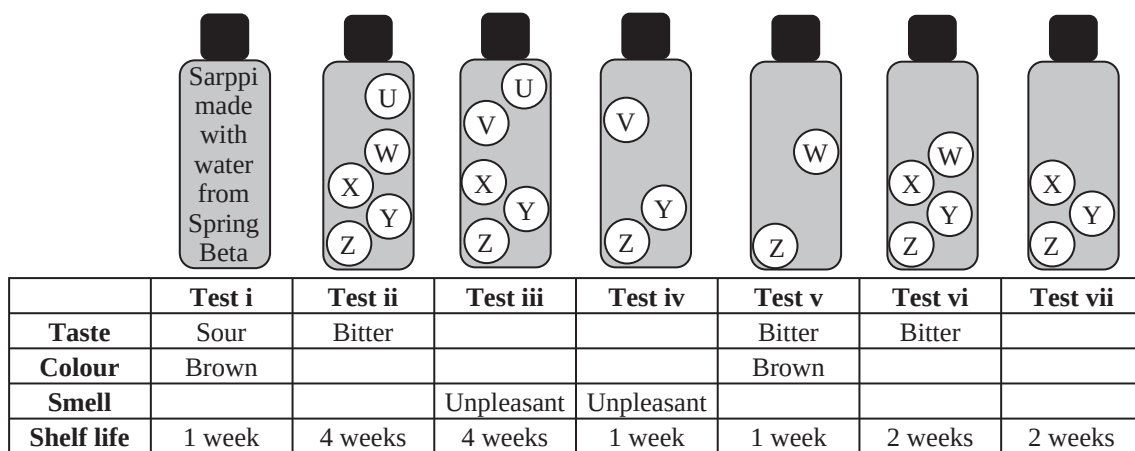
- 59 In the final sentence of the passage, what is Fry suggesting is 'unlikeable'?
- A pride
 - B vanity
 - C ambition
 - D neediness
- 60 What is one reason that Fry would write his own memoir, instead of getting someone else to write it?
- A He wants to promote his unique entertaining style.
 - B He is attempting to give readers an open and honest self-appraisal.
 - C He believes that artists such as himself are largely misunderstood.
 - D He is trying to convince readers that he is really both an artist and entertainer.
- 61 Overall, in the passage Fry
- A shows sympathy for artists.
 - B makes excuses for artists.
 - C defames artists.
 - D reveres artists.

UNIT 21

Questions 62 – 64

Sarppi, a bottled fruit drink, is made using water collected from Spring Alpha. The manufacturers of Sarppi conducted seven tests (**i** to **vii**) to determine which of six minerals (**U**, **V**, **W**, **X**, **Y** and **Z**) could be added to water from an alternative spring (Spring Beta) in order to produce Sarppi of the same quality.

The figure indicates Sarppi quality, in terms of taste, colour, smell and shelf life (time that Sarppi remains fresh after bottling, which is normally **two weeks**), when different minerals are added to water from Spring Beta to make Sarppi. For example, in **Test v**, minerals **W** and **Z** were added to the water from Spring Beta, but this resulted in a drink that was bitter and brown and had a one-week shelf life.



Assume that:

- if no comment is made about taste, colour or smell, these qualities are the same as Sarppi made with Spring Alpha water
- when present, the concentration of a mineral is the same in each test
- each mineral has just **one** effect and does not interact with any other mineral
- all observed effects are caused by minerals in the spring water
- except for the modifications indicated, all the tests were conducted in identical conditions.

62 Which of the following causes Sarppi to have an unpleasant smell?

- A** lack of mineral W **C** addition of mineral V
B lack of mineral X **D** addition of mineral Y

63 Which of the following minerals is most likely to increase the shelf life of Sarppi made with water from Spring Alpha?

- A** just U
B just X
C either U or X
D neither U nor X

- 64 When made with water from Spring Beta, the absence of which of the following minerals causes Sarppi to taste sour?

A W
B X

C Y
D Z

UNIT 22

Questions 65 and 66

Below are four quotations about opinions.

I If three people say you are a donkey, put on a bridle. <i>Spanish proverb</i>	III Do not seek the truth, only cease to cherish your opinions. <i>Unknown</i>
II We find very few people sensible, except those who are of our opinion. <i>François de La Rochefoucauld</i>	IV When some folks agree with my opinions I begin to suspect I'm wrong. <i>Kin Hubbard</i>

- 65 Consider the following quotation:

‘In all matters of opinion our adversaries are insane.’

Mark Twain

Which one of the quotations above is closest in meaning to this quotation?

A I
B II
C III
D IV

- 66 Quotation **III** suggests that opinions

A are a necessary part of the truth.
B are usually inaccurate.
C distort the truth.
D can be an obstacle to truth.

UNIT 23

Questions 67 – 70

The map on the opposite page is taken from a book about good fishing spots in the Northern Territory, Australia. The watercourses in the area shown on the map are affected by tides for many kilometres inland.

‘Barra’ is slang for ‘barramundi’, a fish commonly caught in the area.

The Northern Territory has two main seasons:

- Wet season – heavy tropical rain on most days when many watercourses flood.
- Dry season – prolonged period without rain when floods from the Wet season dry out.

67 The boundary of the section of Kakadu National Park shown on the map is

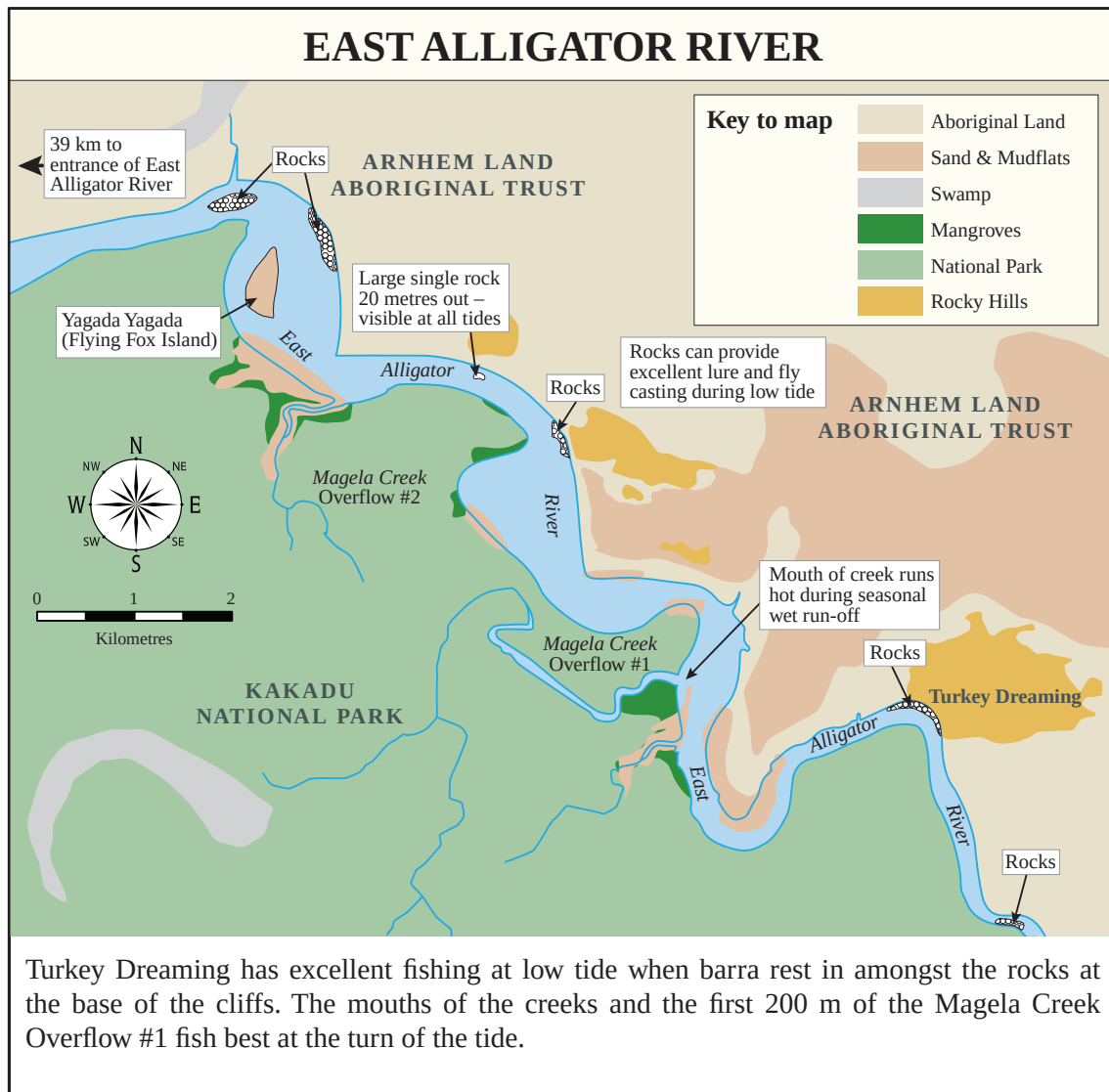
- A** Magela Creek.
- B** Turkey Dreaming.
- C** East Alligator River.
- D** Arnhem Land Aboriginal Trust.

68 Navigation down Magela Creek Overflow #2 is more difficult than Overflow #1 because of

- A** mudflats.
- B** mangroves.
- C** hazardous rocks.
- D** the excessive volume of water.

69 From the map it seems likely that Turkey Dreaming is

- A** an important Aboriginal site.
- B** completely inundated at high tide.
- C** a safe place to moor tourist boats.
- D** the most accessible fishing site on the river.



70 'Turkey Dreaming has excellent fishing at low tide ...'

Referring to the map, which of the following best supports this contention?

- A Mangroves and mudflats provide good fish habitat.
- B Rocky cliffs provide shade and the narrow river concentrates fish numbers.
- C The river is wide and shallow at this point and fish are close to the surface.
- D There is a wide mouth of creek entering nearby, which encourages fish to congregate.

GAT 2015 Source References

Emily Ballou, 'Here is a Hair from Her Head', *The Best Australian Stories* 2009, (ed.) Delia Falconer, Melbourne: Black Inc., 2009.

Roz Chast/The New Yorker Collection/The Cartoon Bank

Adapted from *Fishing and Camping Guide to the Northern Territory* by Dick Eussen, 2008. Reproduced with permission.

Extract from *The Fry Chronicles* by Stephen Fry. Published by Michael Joseph (Penguin). Reproduced with permission.

S. Harris, *CartoonStock*. Catalogue Ref: shrn17.

© Jim Lynch, 2005, *The Highest Tide*, Bloomsbury Publishing Inc.

David Sipress/The New Yorker Collection/The Cartoon Bank

'The Night-Ride' from *Selected Poems* by Kenneth Slessor. Reprinted by permission of HarperCollins Publishers Australia.

'Single and Double Loop Learning' (archive LO22409), Learning-Org Discussion Pages, <http://www.learning-org.com/graphics/LO22409SingleDouble.jpg> (accessed Dec 2007)

Detroit Industry (image 7 of 13), New Public Radio (NPR), <http://www.npr.org/multimedia/2009/04/rivera/gallery/index.html> (accessed Jan 2014)

Growth Cycle diagram, Flickr. License (All rights reserved by simborg), <https://www.flickr.com/photos/wandereye/2369073957/sizes/m/>

Adapted from *Extinction Timeline 1950–2050* by the Future Exploration Network and What's Next, 15 April 2008, http://futureexploration.net/blog/2008/04/boston_globe_covers_the_extinc.html; reproduced by permission of Ross Dawson.