

Victorian Certificate of Education 2016

General Achievement Test

Tuesday 7 June 2016

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>
Writing Task 1	1	30
Writing Task 2	1	30
Multiple-choice questions	70	120

- 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 test.

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** on the answer book.
- Write your **name** on the multiple-choice answer page on page 15 of the answer book.
- Follow the times suggested for each task.
- 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 blue or black pen.
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.

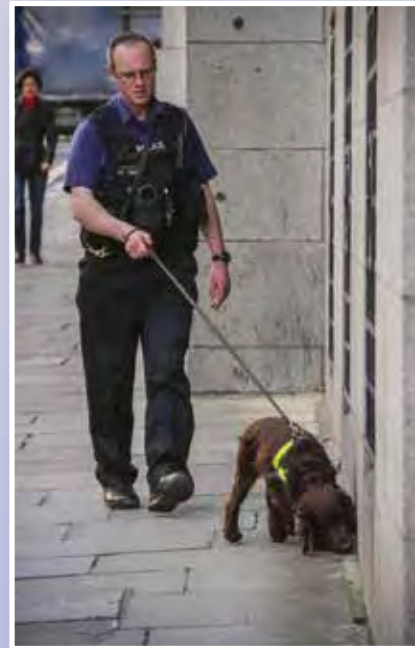
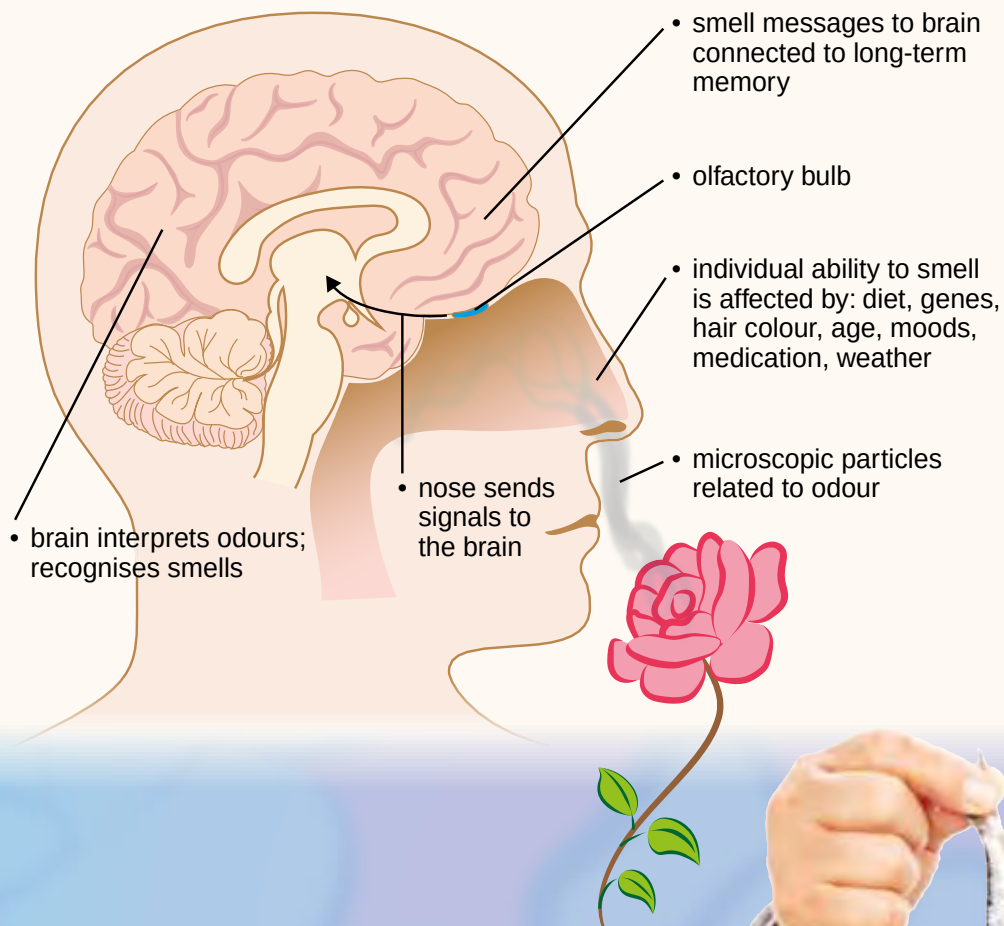
Your piece will be judged on:

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



Ornate perfume vase from the tomb of Tutankhamen, 14th century BCE

The sense of smell



'Odours have a power of persuasion stronger than that of words, appearances, emotions, or will. The persuasive power of an odour cannot be fended off, it enters into us like breath into our lungs, it fills us up, imbues us totally. There is no remedy for it.'

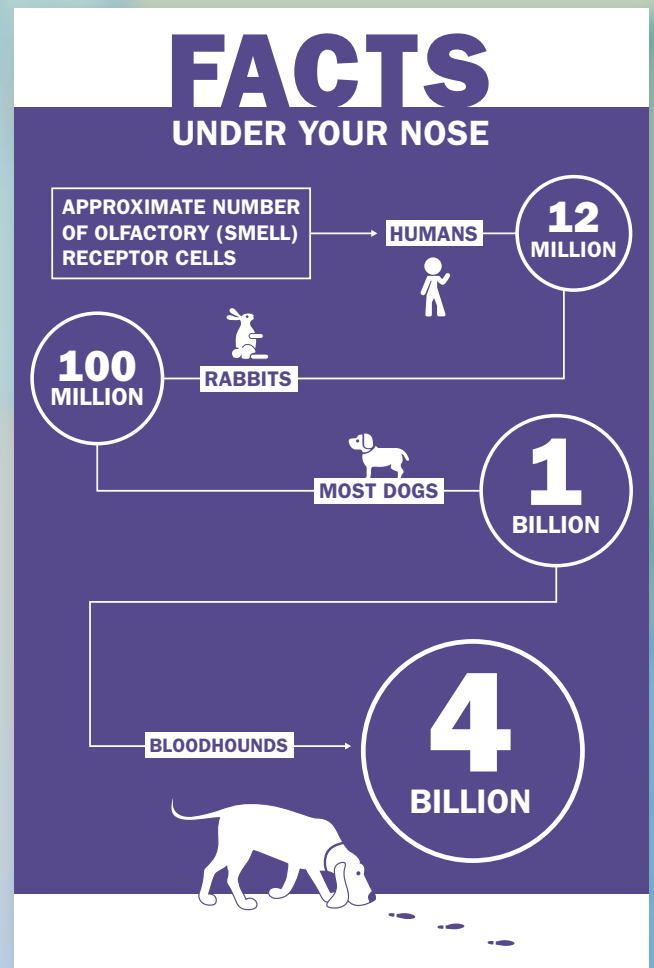
Patrick Süskind, *Perfume: The Story of a Murderer*



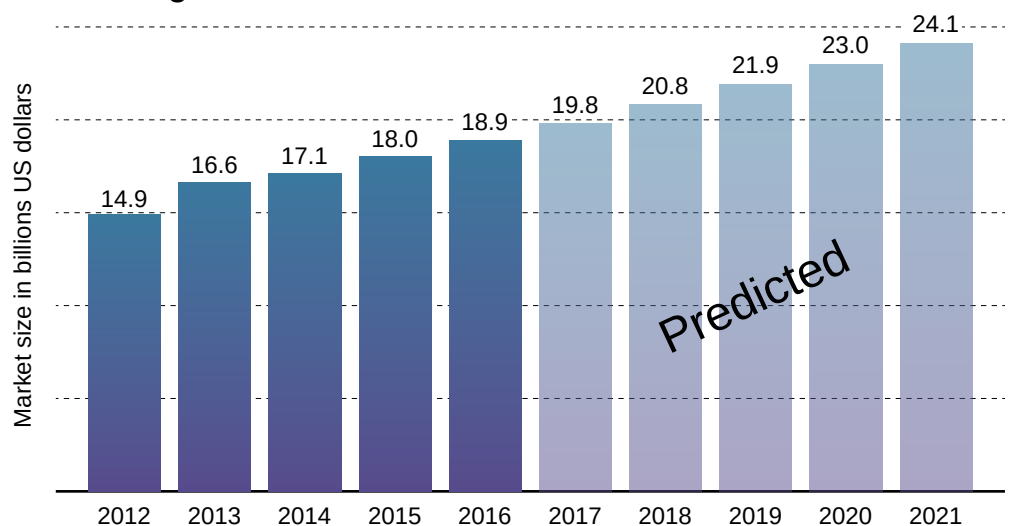


Our sense of smell:

- is designed to help our species survive
- helps form a mother–child bond
- helps newborns recognise their mothers
- is at its best at ten years of age
- is related to *pheromones*: odour signals that have an emotional and/or physical effect on other members of the same species.



Size of global deodorant market from 2012 to 2021



Global facts related to our sense of smell

Annual global perfume industry sales revenue is US \$40.1 billion

People recall smells with 65% accuracy after one year; visual recall is 50% at 3 months

At least 2% of the population is sensitive or allergic to perfume

Our sense of smell accounts for 75–95% of the impact of a flavour

WRITING TASK 2

*To be answered in the answer book in blue or black pen.
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.

We need to work hard if we are to appreciate and make the most of our leisure time.

Many great ideas and creations have come about through relaxed reflection.

Our commitment to meaningful work is what gives our lives a sense of purpose.

For most of us work is what gets in the way of a perfect life of leisure.

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.

Answer **all** questions in pencil.

Shade your answers on the multiple-choice answer page (page 15) of the answer book.
Choose the response that is **correct**, or that **best answers the question**.

A correct answer scores 1, an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

UNIT 1

Questions 1 – 3

Two reviews of Kanye West's performance at Glastonbury, an annual music festival in England, are given below.

Review I

For someone who declared loudly and without any irony that he was 'the greatest living rock star in the world', Kanye West appeared remote and uncommitted throughout his heavily publicised set on the stage at Glastonbury at the weekend. He performed under a vast ceiling of very bright lights (which he complained were too low and demanded be raised because he was scared he would hit his head). There was no band (on stage) and no back-up singers; just Kanye alone with himself and his ego.

5

One could be forgiven for mistaking the intensity of his performance for that of an acclaimed rock star. But in reality it was just Kanye being slightly weird. He stopped and restarted songs. He had the lights off for sustained periods of time and the stageside screens had lots of close-ups of him trying to look pensive, but actually he looked just plain ridiculous.

10

Evidently 130 000 people signed a petition demanding the Glastonbury organisers cancel Kanye's headlining performance before it had even happened. Maybe the organisers should have listened.

15

Review II

There's an argument that goes that it is part of the job description for prominent rock stars to be difficult, self-indulgent, controversial and slightly bizarre. They shouldn't be normal, everyday people; where's the attraction in that? We want them to be other-worldly, and distanced from our humdrum existence by their very strangeness. Kanye West fits this description well.

5

He couldn't have cared less about his audience; didn't bother with a false charm and just got on with a forceful and focused delivery of his songs. It was quite a brave performance given that there was evidently a petition to ban him from the stage. In the face of all that negativity, Kanye got up on stage and was himself: unpredictable, slightly irritable and yes, self-focused. But in the end he managed to make the festival all about him. Now that's the hallmark of a rock star.

10



- 1 In lines 1–7 of **Review I**, the writer suggests Kanye West’s performance was
- A unengaging.
 - B indescribable.
 - C tired and over-rehearsed.
 - D irrelevant and characterless.
- 2 Which of the following words would be the best substitute for the word ‘strangeness’ as it is used in line 4, **Review II**?
- A charm
 - B vulgarity
 - C indescribability
 - D unconventionality
- 3 ‘Now that’s the hallmark of a rock star.’ (line 11, **Review II**)
Here the writer is being
- A polite.
 - B sincere.
 - C sarcastic.
 - D ambivalent.

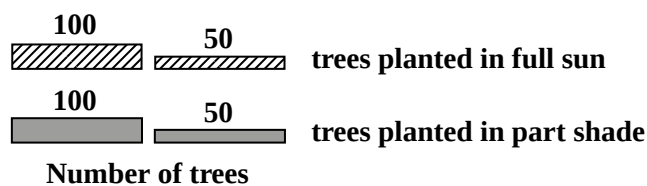
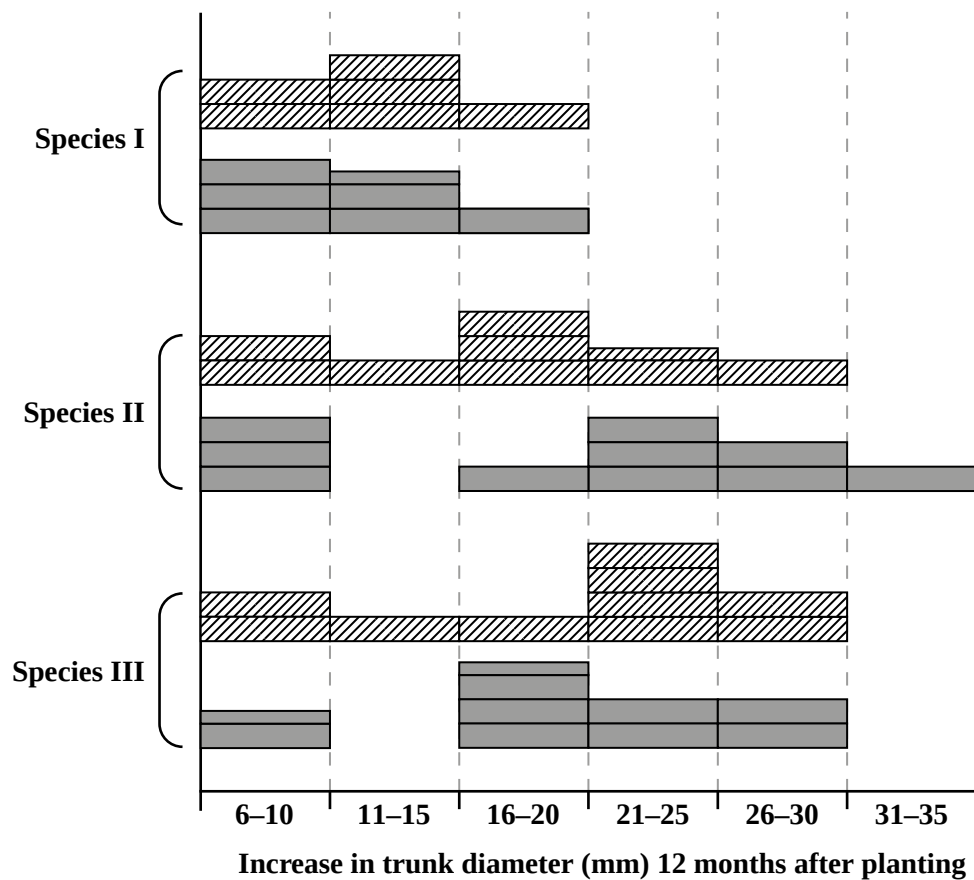
UNIT 2

Questions 4 – 7

In an investigation into the best way to revegetate logged forests, young trees of three species (**I**, **II** and **III**) were planted in each of two different conditions: full sun (no shade) and part shade. The figure shows, for each species and each growing condition, the number of trees in each of six categories of trunk diameter increase (millimetres, mm) measured at 12 months after planting.

Assume that:

- 2000 trees of each species were planted, 1000 in each of the two conditions
- not all of the planted trees survived for 12 months
- all trees were of identical trunk diameter when planted
- all other growing conditions were identical
- for any individual tree, the rate of trunk diameter increase (growth rate) is constant.



- 4 How many trees planted in full sun survived for 12 months?
- A 450
 - B 550
 - C 2450
 - D 2550
- 5 Which of the following should be planted in order to grow a forest of trees with the greatest spread of trunk diameters?
- A Species **I** in full sun
 - B Species **III** in full sun
 - C Species **II** in part shade
 - D Species **III** in part shade
- 6 The fastest growing trees on average were
- A Species **II** planted in full sun.
 - B Species **II** planted in part shade.
 - C Species **III** planted in full sun.
 - D Species **III** planted in part shade.
- 7 What fraction of all trees planted did **not** survive for 12 months?
- A $\frac{1}{6}$
 - B $\frac{1}{5}$
 - C $\frac{2}{6}$
 - D $\frac{2}{5}$

UNIT 3

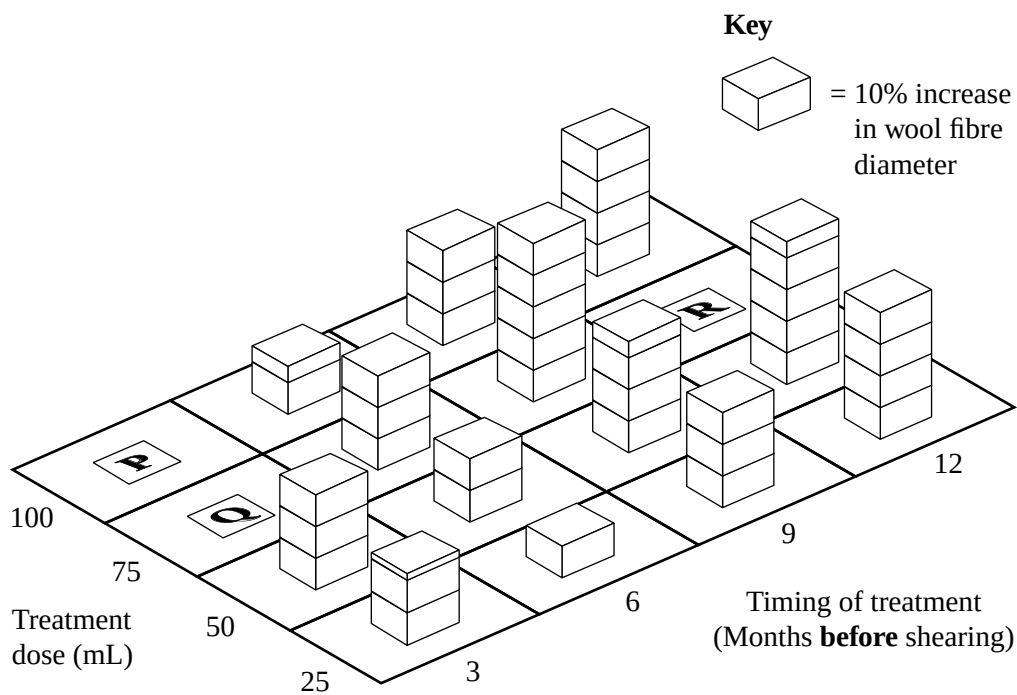
Questions 8 – 10

The graph shows the results of 16 trials investigating the ability of a new treatment for sheep to improve the strength of wool by increasing the diameter of wool fibres. The trials varied the treatment dose (measured in mL) and the timing (months **before** shearing) of the treatment.

The wool fibre diameter was measured in October when the sheep were shorn. The results are given as the average percentage increase relative to a standard wool fibre diameter of 15 microns (1 000 000 microns = 1 metre).

Note:

- Sheep are shorn every year.
- The values **P**, **Q** and **R** are not shown in the graph.



8 Which of the following is most likely true of **P**, **Q** and **R**?

- A $R > Q > P$
- B $Q > R > P$
- C $P > R > Q$
- D $P > Q > R$

- 9 Of the following, which is most likely to produce the greatest average wool fibre diameter?
- A 25 mL treatment dose given in October
 - B 50 mL treatment dose given in July
 - C 75 mL treatment dose given in April
 - D 75 mL treatment dose given in January
- 10 What was the difference in the average wool fibre diameter of sheep given a 25 mL treatment dose in April compared to sheep given the same treatment dose in January?
- A 1.0 microns
 - B 1.5 microns
 - C 2.0 microns
 - D 3.0 microns

UNIT 4

Question 11



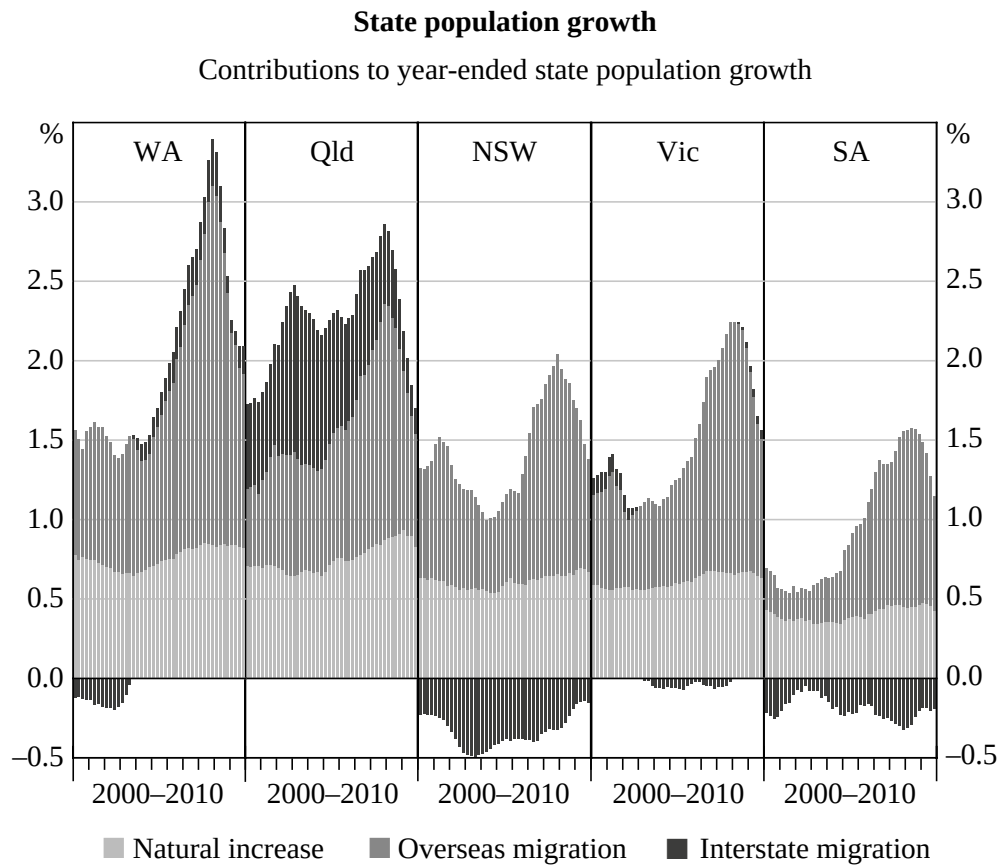
“Mom, tell Dad to stop liking my music!”

- 11 The joke of the cartoon is that
- A some fathers never grow up.
 - B good music can cross the generation gap.
 - C teenagers can only enjoy those things their parents do not.
 - D teenagers wish to connect with their parents but are reluctant to reveal it.

UNIT 5

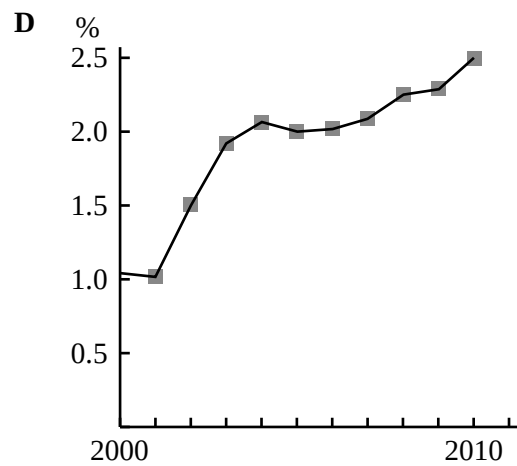
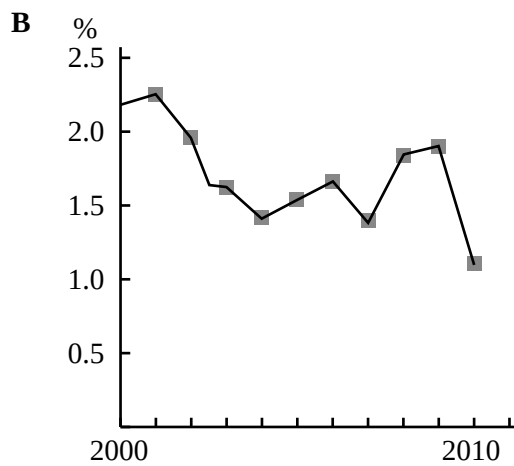
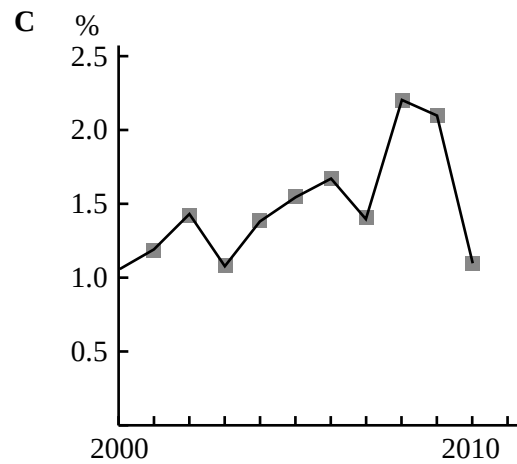
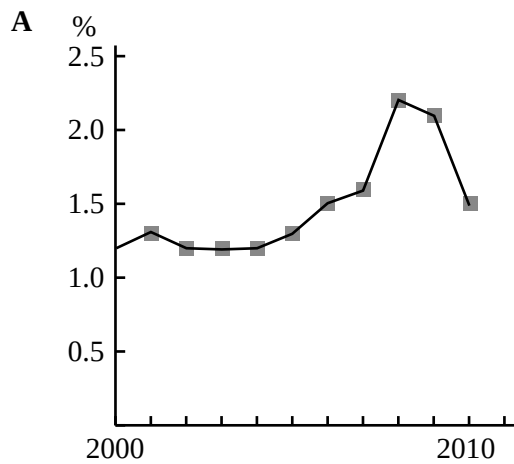
Questions 12 and 13

The following graph shows percentage changes in the population sizes of five Australian states between 2000 and 2010.



- 12 Where and when did overseas migration clearly record stronger growth than natural increase?
- A throughout the decade in Qld and WA only
 - B throughout the decade in Qld only
 - C in all states from the mid-2000s
 - D in all states during the decade

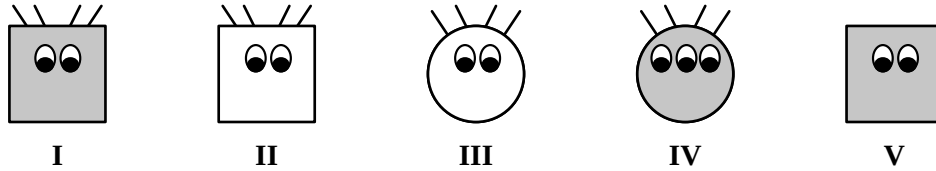
- 13 Based on the diagram, which one of the following best reflects the percentage change in Australia's population growth between 2000 and 2010?



UNIT 6

Questions 14 – 16

A biologist uses the following symbols to represent the attributes of five newly discovered creatures, I–V:



An index, J , is used to determine the degree of similarity between any two of these creatures, based on certain attributes the creatures may or may not have in common.

When comparing any two creatures, let:

- a = number of the attributes the two creatures have in common
- b = number of the attributes the first creature has but the second creature does not have
- c = number of the attributes the second creature has but the first creature does not have.

The index is defined as $J = \frac{a}{a + b + c}$

For this unit, consider **only** the attributes:

- hair present
- round body
- two eyes
- shaded body.

Note that the following combinations of attributes do **not** affect the calculation of J :

- both creatures have square bodies
- both creatures have an unshaded body.

14 Which of the following must be true when J is equal to 1?

- A $a = 1$
- B $a = 0$
- C $b = 0$ and $c = 0$
- D $b = 1$ and $c = 0$

15 If $J = \frac{2}{3}$ for two creatures, the two creatures could be

- A I and III.
- B I and IV.
- C II and III.
- D II and V.

- 16 When comparing any two of the five creatures, if J is equal to 0.5, then a can
- A only be 1.
 - B only be 2.
 - C be either 1 or 2.
 - D be neither 1 nor 2.

UNIT 7

Questions 17 – 19

Thought

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this material is not supplied.

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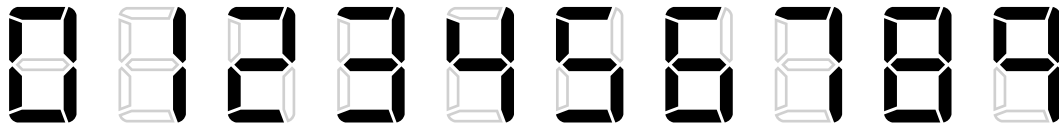
D.H. Lawrence

- 17 What does line 4 suggest about the speaker's approach to 'thought'?
- A It is not always achievable.
 - B It can be receptive and instinctive.
 - C It involves effort and commitment.
 - D It can be an excuse to avoid rigorous reasoning.
- 18 In line 8 the speaker rejects as 'thought' anything that is too
- A serious.
 - B difficult.
 - C artificial.
 - D irritating.
- 19 Which of the following is true?
- A The speaker holds strong opinions about 'thought'.
 - B The speaker admits to uncertainty about the meaning of 'thought'.
 - C The speaker's views of 'thought' are narrow and precisely defined.
 - D The speaker is more interested in exploring 'thought' than in holding an opinion about it.

UNIT 8

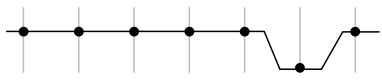
Questions 20 – 23

The diagram below shows the digits 0–9 in a seven-segment digital display. Each digit can be formed by selectively turning on (shown as black) some, or all, of seven segments.



The signal that controls the segments for each digit contains a sequence of bits of information. Each bit has just one of two possible values or instructions: **1** (segment on) or **0** (segment off).

The signal that causes a display to show each digit can be represented in two different ways.

For example,  and **1111101** each represent a signal that causes a display to show a number in which six segments are on and one segment is off. The order in which the bits of information are given in a signal is specific to a particular display. Thus, this signal may cause one display to show the number 6, but cause another display to show 0.

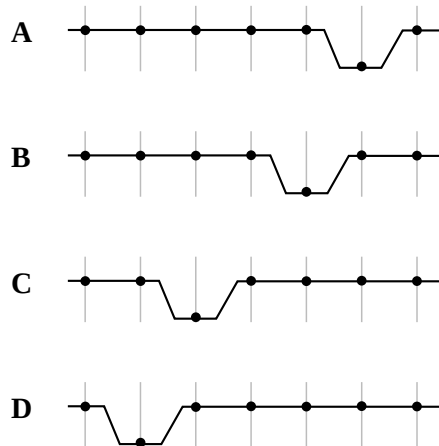
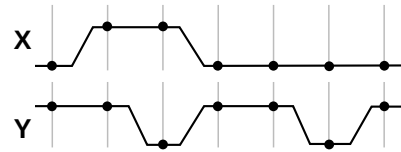
- 20 The following represents a signal that causes a particular display to show a four-digit number.

1111111–1011111–1110111–1110101

This number could be

- | | |
|---------------|---------------|
| A 6805 | C 8056 |
| B 6850 | D 8065 |
- 21 On any given display, how many different digits could be indicated by a sequence of seven bits consisting of at least two **0**s and at least three **1**s?
- | | |
|---------------|----------------|
| A two | C six |
| B four | D eight |
- 22 If the first four bits that cause a particular display to show the digits 3 and 6 are **0111** and **1111** respectively, then the last three bits could be
- | |
|--|
| A 011 and 101 respectively. |
| B 011 and 001 respectively. |
| C 101 and 010 respectively. |
| D 010 and 110 respectively. |

- 23 **X** and **Y** represent signals that cause a particular display to show the digits 1 and 2 respectively. Which of the following represents a signal that could cause the same display to show the digit 6?



UNIT 9

Questions 24 and 25

The following quotation is by Rousseau, a French philosopher of the eighteenth century.

In all the ills that befall us, we are more concerned by the intention than the result. A tile that falls off a roof may injure us more seriously, but it will not wound us so deeply as a stone thrown deliberately by a malevolent hand. The blow may miss, but the intention always strikes home.

- 24 The quotation by Rousseau is mainly about
- | | |
|-----------------------------------|------------------------------------|
| A unintentional injustice. | C premeditated injury. |
| B uncontrolled revenge. | D psychological resistance. |
- 25 Rousseau uses the ‘tile that falls off a roof’ example to
- | |
|--|
| A contradict commonly held beliefs about retaliation. |
| B make a comparison about the nature of pain. |
| C reinforce an argument about intolerance. |
| D make a plea for even-handed justice. |

UNIT 10

Questions 26 – 28

The passage below is from a short story. The speaker, Charlie, who is about eighteen, is infatuated with Angie. He can hardly believe it when she agrees to go on a date with him.

So we're sitting there in my Torana¹ and for some reason we start talking about Nixon². I know. Why? It's not exactly date talk. But Angie was like that. The only thing I knew about Nixon was that he got caught for doing something wrong. I don't know what he did. But then I remembered this exchange student who stayed with my family in 1975. He was from New York, and he taught me how to smoke properly and showed me how to play Neil Young's 'Old Man' on the guitar. He knew about Nixon. 5

'Look, all presidents are crooked,' he told me. 'That's the only way you can become president. Do you think a nice guy with a clean record is going to have what it takes to get to the top? You have to play dirty if you're gonna win. The difference with Nixon is that he got caught. That was the worst thing he ever did. He wasn't smart enough to cover his tracks. I actually feel sorry for the guy.' 10

So Angie's talking about how evil Nixon was, and I remember what this guy told me, and rather than sitting there like an idiot who can't converse on matters not relating to pop music or TV, I start parroting everything he told me.

I say my piece and Angie is completely quiet. She just says nothing at all. She looks at me and then she looks straight ahead. Then she sighs. 15

'Wow,' she says. 'No offence, but that is just so wrong to think like that.'

¹ *Torana*: a model of car

² *Nixon*: President of the US from 1969 to 1974 who resigned after his attempts to cover up wrongdoing in what was known as the Watergate scandal

26 Which of the following best describes Charlie?

- A naive and unworldly
- B arrogant and pretentious
- C self-centred and impetuous
- D pragmatic and unimaginative

27 In the passage as a whole, Charlie tells of his experience in a way that is

- | | |
|------------------|------------|
| A self-effacing. | C pompous. |
| B restrained. | D cynical. |

28 What is most likely to happen after Angie says, 'No offence, but that is just so wrong to think like that'?

- A Charlie would quickly change the topic to Australian politics.
- B The couple would engage in a bitter argument that would end the friendship.
- C The couple would have a discussion in which Charlie would admit to the source of his views.
- D Charlie would be overwhelmed with embarrassment and wish that he hadn't said anything about Nixon.

UNIT 11

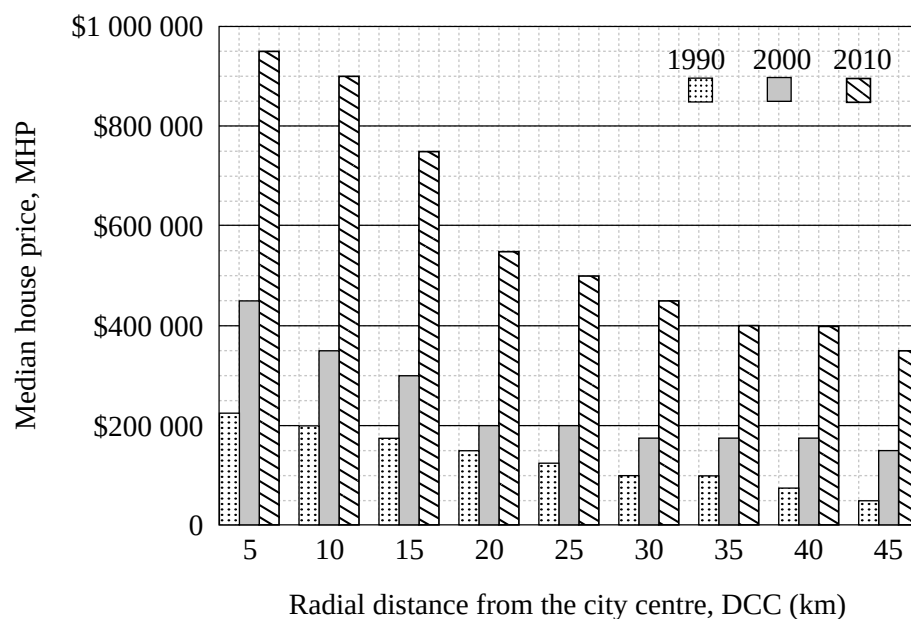
Questions 29 – 31

For a particular city, a study looked at the median house price (MHP) in relation to the radial distance from the city centre (DCC) and the average house affordability (AHA), for the period 1990 to 2010. The graph shows MHP at different DCCs for this period.

The AHA is a measure of how much a person on an average income can afford to pay for a house. The AHA was \$150 000 in 1990, \$200 000 in 2000 and \$400 000 in 2010.

Assume:

- zero inflation for the period 1990–2010
- that a person on an average income buys a house of median price.



- 29 Of the following, which showed the largest average annual MHP increase?
- | | |
|---|---|
| <p>A 35 km, 1990–2000</p> <p>B 35 km, 1990–2010</p> | <p>C 40 km, 1990–2000</p> <p>D 40 km, 1990–2010</p> |
|---|---|
- 30 From 1990 to 2010, what was the change in the minimum DCC that could be afforded by a house buyer on an average income?
- | | |
|---|---|
| <p>A 10 km</p> <p>B 15 km</p> | <p>C 20 km</p> <p>D 25 km</p> |
|---|---|
- 31 In which of the following years did a person on an average income have the greatest choice of DCCs from which to buy a house?
- | | |
|---|---|
| <p>A 1990 only</p> <p>B 2010 only</p> | <p>C 2000 and 2010 equally</p> <p>D 1990 and 2000 equally</p> |
|---|---|

UNIT 12

Questions 32 – 35

On the opposite page is a version of a famous graph that illustrates French leader Napoleon Bonaparte's invasion of Russia in 1812. Napoleon's Russian campaign began in the summer, on 24 June 1812, when his army, consisting of about 422 000 French and allied soldiers, crossed the Nieman River from what was then Poland into Russia as part of its plan to engage and defeat the Russian Army.

On the graph:

- the grey band designates men moving into Russia and towards Moscow.
- the black band represents the returning army.
- the width of the band represents soldier numbers, which are also expressed numerically.
- Napoleon's army arrived in Moscow on 14 September 1812, and left one month later.
- asterisks (*) on the map represent significant battles of the campaign.

32 The graph suggests that Napoleon's army suffered its greatest losses between

- A** the start of August and mid-September.
- B** mid-September and the end of October.
- C** the start of November and mid-December.
- D** the start of the campaign and the end of July.

33 The graph suggests that weather conditions were

- A** a compounding factor on losses in the return from Moscow.
- B** the main cause of the high death rate in Napoleon's army.
- C** an inconsequential feature of the Russian campaign.
- D** advantageous for the French but not the Russians.

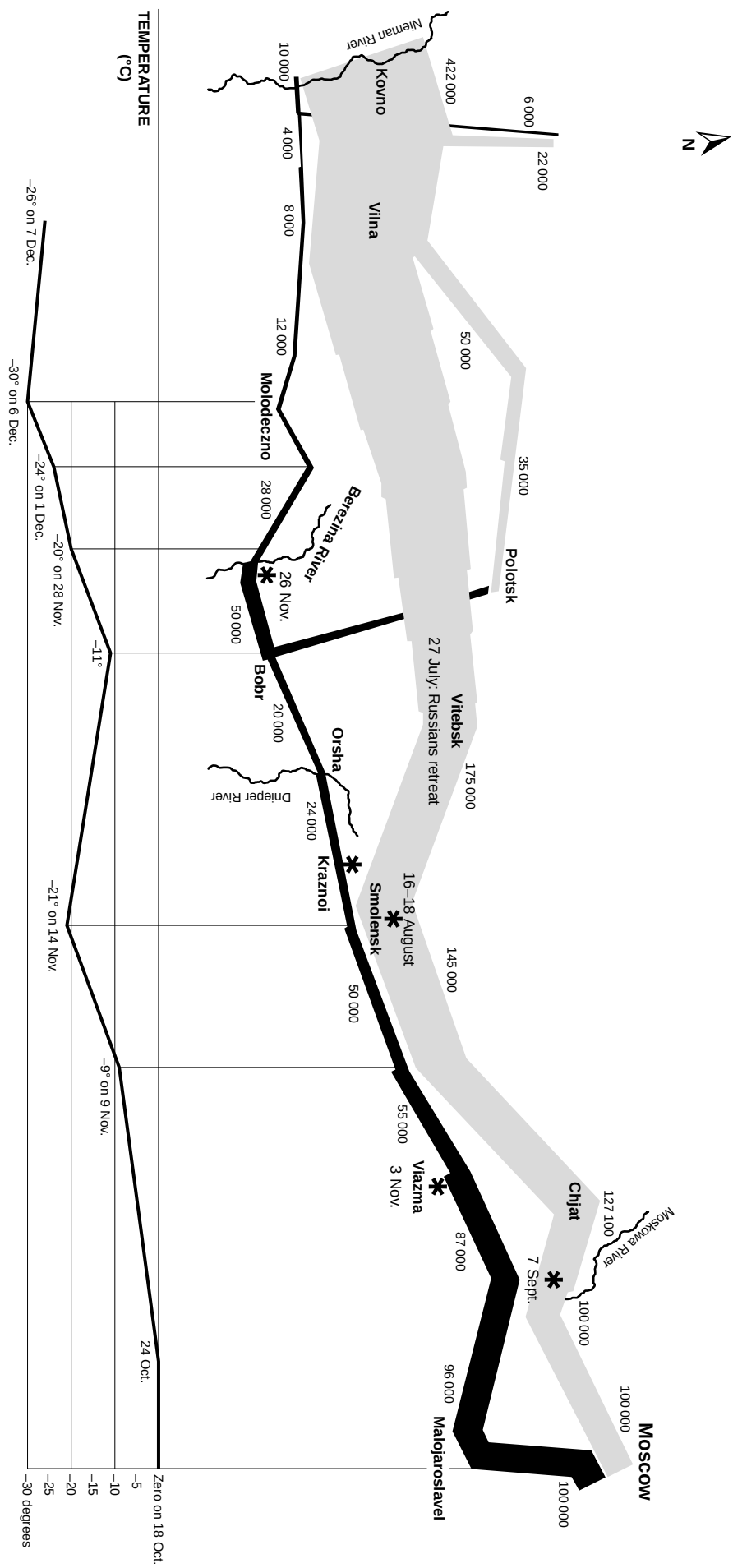
34 The graph mainly demonstrates

- A** Napoleon's victory despite hostile weather and territory.
- B** Russia's ill-preparedness for the French invasion.
- C** the folly of Napoleon's campaign.
- D** Napoleon's military genius.

35 As a legacy of the Battle of Berezina, 'Berezina' is used by French people today to describe a certain situation.

The graph suggests that 'Berezina' describes a

- A** euphoric situation.
- B** disastrous situation.
- C** promising situation.
- D** deadlocked, stalemate situation.



UNIT 13

Questions 36 – 39

In an experiment, the effectiveness of two medicinal creams and their ingredients in treating two skin conditions, **I** and **II**, were tested (**Tests i** to **x**). The creams were:

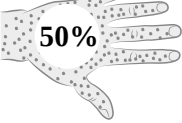
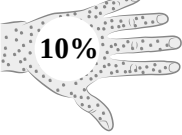
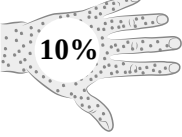
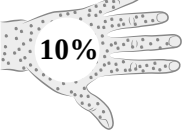
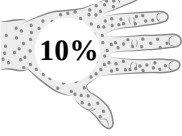
- *Rash Repair (RR)*, composed of equal quantities of ingredients **W**, **X** and **Y**
- *Skin Salve (SS)*, composed of equal quantities of ingredients **X**, **Y** and **Z**.

Assume that:

- exactly 1 gram of each ingredient was applied for each test shown in the figure below. For example, for **Test i**, a total of 3 grams of **RR** was applied (1 gram of each ingredient **W**, **X** and **Y**), and for **Test v**, 1 gram of **W** was applied
- each ingredient has just one effect on a skin condition and the ingredients act independently
- all tests were carried out in the same conditions.

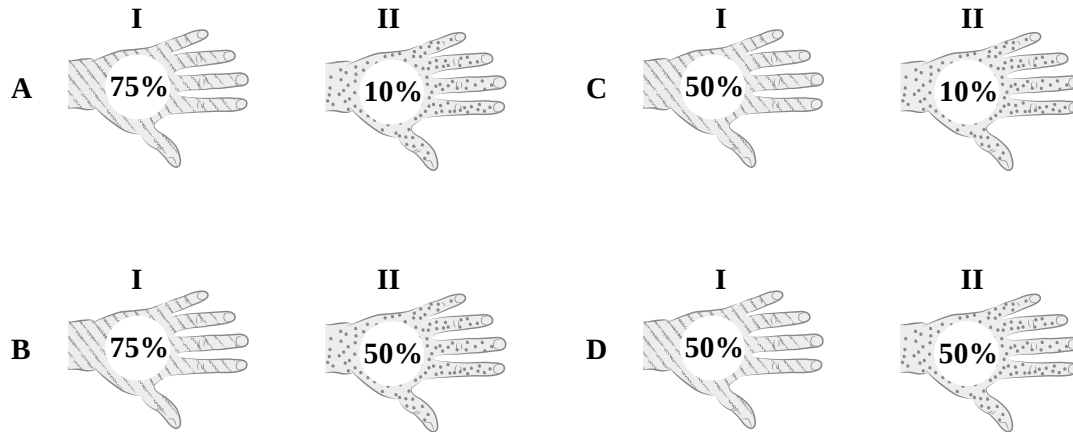
The figure shows the percentage of a standard area of skin affected by each condition with no treatment, and 24 hours after treatment with a cream (**Tests i** to **iv**) or single ingredient (**Tests v** to **x**).

Note that ingredient **Z** was not tested separately.

Treatment	Skin condition I	Skin condition II
No treatment	 75%	 50%
Rash Repair	Test i  50%	Test ii  10%
Skin Salve	Test iii  10%	Test iv  10%
Ingredient W	Test v  50%	Test vi  50%
Ingredient X	Test vii  75%	Test viii  10%
Ingredient Y	Test ix  75%	Test x  10%

- 36 Consider a medicinal cream that contains just **W** and **Y**.

Which of the following best illustrates the expected test results 24 hours after treatment with this medicinal cream?



- 37 Consider another medicinal cream (*Topical Treatment*; **TT**) composed of equal quantities of ingredients **W** and **Z**, and a new ingredient, **U**.

Which of the following represents the minimum additional test, or tests, needed to determine the effect of ingredient **U** on skin condition **I**?

- A **U** on **I**
- B **U** on **I**, **Z** on **I**
- C **W** on **I**, **U** on **I**, **Z** on **I**
- D **TT** on **I**, **W** on **I**, **U** on **I**, **Z** on **I**

- 38 Which of the ingredients most improves skin condition **I**?

- A **W**
- B **X**
- C **Y**
- D **Z**

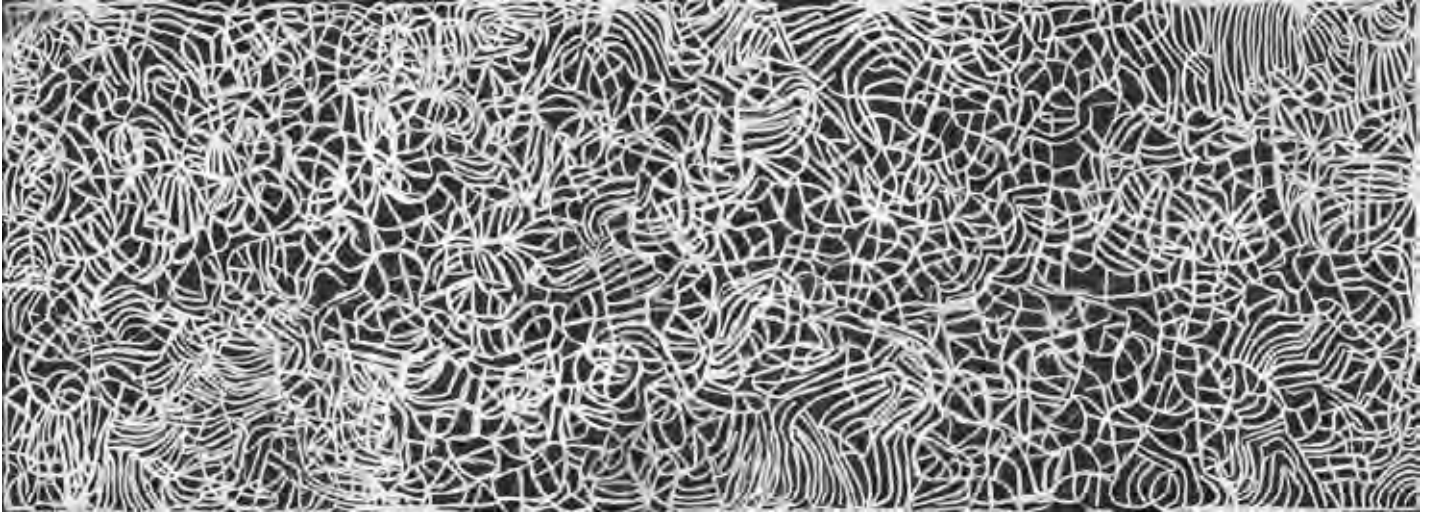
- 39 Which ingredients could reduce skin condition **I** to 10% and skin condition **II** to 20% in 24 hours after treatment?

	Skin condition I	Skin condition II
A	X and Y combined	Z
B	Z	X and Y combined
C	An ingredient other than W , X , Y or Z	Z
D	Z	An ingredient other than W , X , Y or Z

UNIT 14

Questions 40 – 43

The following is a painting by Emily Kame Kngwarreye called ‘Anwerlarr Anganenty’ (Big Yam Dreaming). It is eight metres long and nearly three metres high and hangs in the National Gallery of Victoria. The white lines in the painting suggest the roots of the pencil yam as they spread beneath the ground and the cracks in the ground created as the yam ripens.



Emily Kame Kngwarreye ‘Anwerlarr Anganenty’ (Big Yam Dreaming) 1995 synthetic polymer paint on canvas, National Gallery of Victoria, Melbourne

Passage I is a description provided by the gallery.

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Passage II is a description by the writer Alex Miller.

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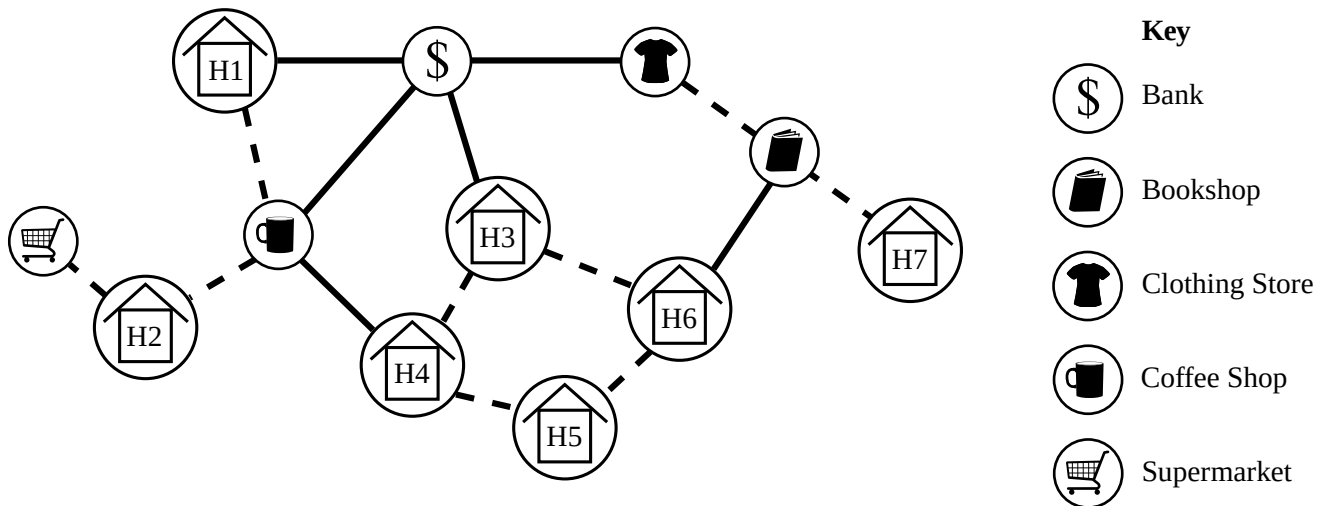
¹ Fred Williams, Rosalie Gascoigne and John Olsen are all well-known Australian painters.

- 40 The ‘inner properties of drawing’ (line 5, **Passage I**) most likely refers to the
- A artist’s choice of yams as a subject.
 - B overpowering nature of the artwork.
 - C subtle aspects of the style adopted by the artist.
 - D qualities unique to many forms of Indigenous artwork.
- 41 **Passage II** argues that Emily Kame Kngwarreye’s work is
- A superficial, but aesthetically pleasing.
 - B influential in an enigmatic sort of way.
 - C unfathomable to anyone but Indigenous people.
 - D an example of an artistic style that has immediate universal appeal.
- 42 **Passage II** argues that the ‘uniquely Australian way of seeing’ (line 7, **Passage II**) is important to
- A all Australian artists.
 - B only Indigenous artists.
 - C all working artists everywhere.
 - D only Australian landscape artists.
- 43 Both **Passage I** and **Passage II** emphasise the painting’s
- A historical relevance.
 - B free-flowing style.
 - C subject matter.
 - D impact.

UNIT 15

Questions 44 – 46

The diagram represents the roads between seven houses (H1 to H7) and five businesses in a town. The diagram is **not** drawn to scale. Solid lines are roads with a length of 2 kilometres (km). Dashed lines are roads with a length of 1 km.



Assume that:

- all travel takes place along the roads shown
- people always take the shortest possible route
- no road may be used more than once on any particular journey.

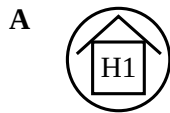
- 44 The road between and has flooded and is impassable. From which of the following houses does the shortest trip to the bank increase most?



- 45 How many houses are 4 km or less from all other houses?

- A one
- B two
- C four
- D five

- 46 Suppose Ali lives at . Jasmine lives the same distance from exactly two businesses as she does from Ali's house. Where does Jasmine live?



UNIT 16

Questions 47 – 49

The following quotations are about conformity.

I Every society honours its live conformists, and its dead troublemakers.	III We are half ruined by conformity; but we should be wholly ruined without it.
II When people are free to do as they please, they usually imitate each other.	IV The nail that sticks out gets hammered down.

- 47 In which quotation is rebellion against conformity viewed as directly dangerous for the individual?
- A I
B II
C III
D IV
- 48 Conformity is presented as a type of dilemma in
- A I.
B II.
C III.
D IV.
- 49 In which quotation is conformity most valued in its relationship to time?
- A I
B II
C III
D IV

UNIT 17

Questions 50 – 52

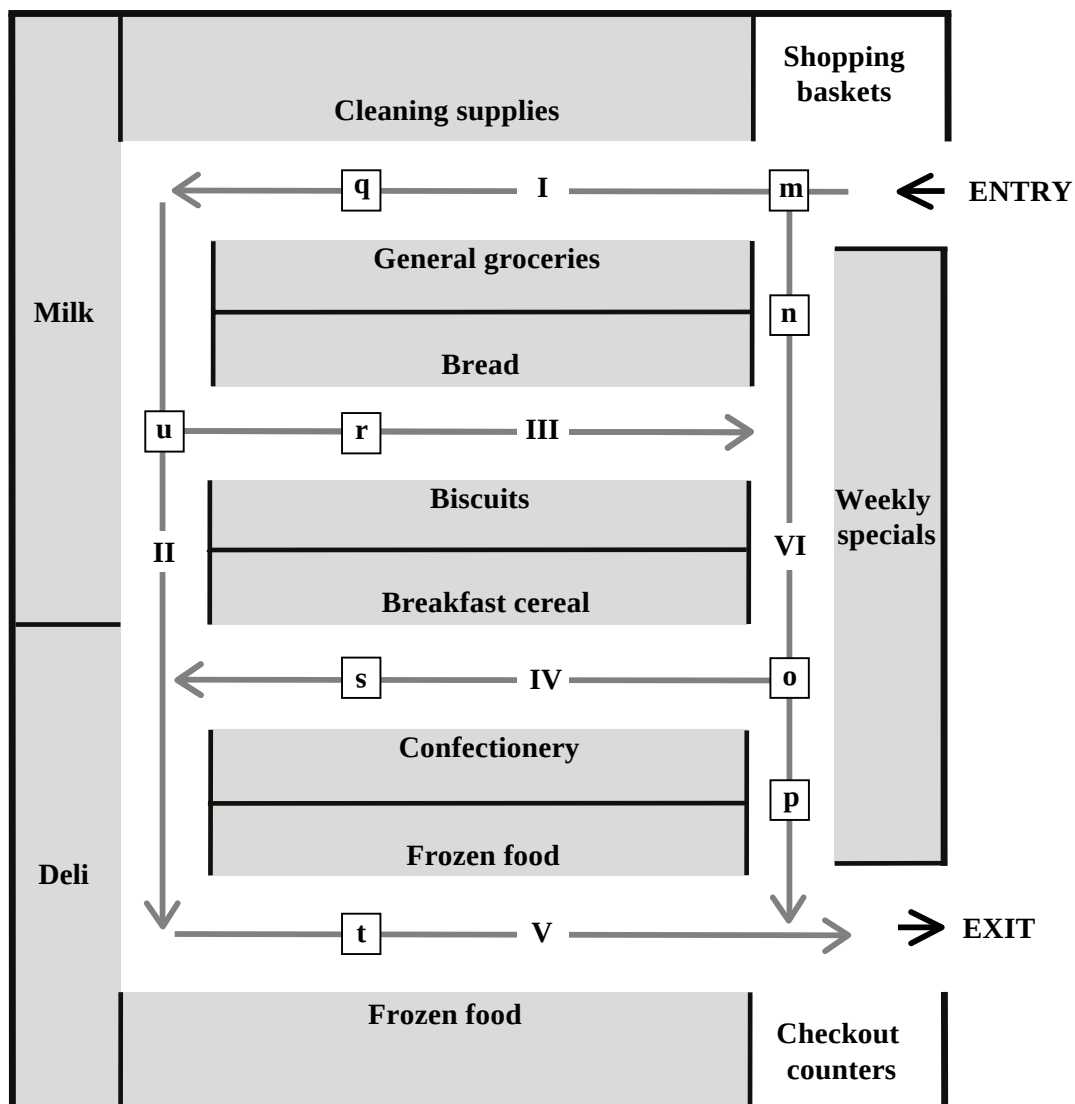
The figure shows the floor plan of a grocery store with six aisles (I to VI). The arrows indicate the direction customers can take when walking through the store. The shaded areas represent areas stocked with the products indicated. Several locations are labelled (**m** to **u**).

Assume that all customers:

- walk only in the direction of the arrows (e.g. customers in location **u** would continue walking along aisle **II** or turn into aisle **III**, but would not walk back along aisle **I**)
- can access a product only when in the aisle where it is located (e.g. a customer can access bread or biscuits only when in aisle **III**)
- take the shortest possible route to the product(s) they wish to locate.

The number of customers that visited a particular location in the store each day can be represented by $n(\mathbf{L})$, where **L** is a particular location within the store and n is the number of customers who visited that location.

For example, on a day when $n(\mathbf{q}) = 15$, fifteen customers walked past cleaning supplies.



- 50 On a day when $n(\mathbf{n}) = 30$ and $n(\mathbf{p}) = 24$, how many customers walked past the bread?
- A fewer than 24
 - B more than 24 but fewer than 30
 - C more than 30 but fewer than 54
 - D It is not possible to determine this.
- 51 Which of the following represents the number of customers who walked past the deli on any day?
- A $n(\mathbf{q}) - n(\mathbf{r}) + n(\mathbf{s})$
 - B $n(\mathbf{q}) + n(\mathbf{u}) - n(\mathbf{t})$
 - C $n(\mathbf{u}) + n(\mathbf{s})$
 - D $n(\mathbf{u}) - n(\mathbf{r})$
- 52 The store owner has determined that, during any month, of the customers who reach location $\mathbf{m}$, $\mathbf{u}$ or $\mathbf{o}$, 50% walk in each of the alternative directions.
- During one month, what percentage of customers would walk past the deli?
- A 25%
 - B 37.5%
 - C 62.5%
 - D 75%

UNIT 18

Questions 53 – 55

The passage below is from a novel. Rich, a professional photographer, is preparing to go bushwalking.

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¹ *The Kite Runner*: movie of a novel set in Afghanistan that involves violence and betrayal

- 53 Rich considers the technical information about the sleeping bag with
- A awed respect.
 - B wry amusement.
 - C intense irritation.
 - D confusion and puzzlement.
- 54 For Rich, the ‘sad-eyed kids, playing in monochromatic stony streets’ (line 12)
- A represent innocence.
 - B suggest a career opportunity.
 - C conjure up tenderness and sympathy.
 - D make him aware of his comfortable circumstances.
- 55 Rich’s thoughts are concerned mainly with
- A justifying the purchase.
 - B nostalgia for past holidays.
 - C figuring out how to work the sleeping bag.
 - D anticipating the pleasure of using such a sophisticated sleeping bag.

UNIT 19

Questions 56 – 58

Suppose $e * f = \frac{e}{f} + \frac{f}{e}$ and $e \odot f = \frac{e}{f} - \frac{f}{e}$, where neither e nor f can equal zero.

56 If $e = 2$ and $f = 1$, what is $e * f$ equal to?

A 1

B $1\frac{1}{2}$

C $2\frac{1}{2}$

D 4

57 If $e \odot f = 2\frac{2}{3}$, e and f could be

A $e = 3, f = 2$

B $e = 3, f = 6$

C $e = 6, f = 2$

D $e = 6, f = 3$

58 If $e \odot f = 1\frac{1}{2}$, then

A $e = \frac{1}{2}f$

B $e = 2f$

C $e = \frac{1}{4}f$

D $e = 4f$

UNIT 20

Questions 59 – 61

The paradox of horror is that people can enjoy horror stories which seem to involve the intrinsically unpleasant emotions of fear and disgust. How can the audiences of horror movies, for instance, enjoy stories about repulsive creatures involving shock and terror?

Four theories have been offered to explain or resolve the paradox of horror.

On-balance theory We are fascinated by monsters and evil and want to know what happens in a dramatic situation. The feelings experienced in horror fictions are muted in comparison to those feelings in real life, and the positive interest outweighs the negative. Fear and disgust are the price we pay for the pleasure of finding out what happens.	Control theory In horror fictions we remain in conscious control. There are no practical consequences for the actors or the audience, so this leaves us free to explore and reflect on negative emotions that arise from the situation depicted.
Catharsis theory Catharsis is the process of releasing emotion, and thereby providing relief from strong or repressed feelings. According to this theory, horror allows us to lighten or unburden ourselves of these negative emotions.	Enjoyment theory Horror is popular because some people can enjoy being scared and disgusted. Mountaineers, bungee jumpers and roller-coaster riders, for instance, take pleasure in being scared.

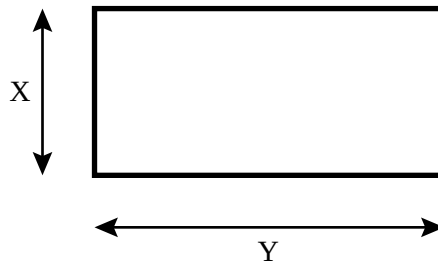
- 59 Which theory recognises that different individuals respond differently to horror movies?
- A On-balance
 - B Catharsis
 - C Control
 - D Enjoyment
- 60 Which of the theories gives most recognition to the entertainment value of horror movies?
- A On-balance
 - B Catharsis
 - C Control
 - D Enjoyment
- 61 Which of the theories are most closely related?
- A Enjoyment and Control
 - B On-balance and Catharsis
 - C Catharsis and Enjoyment
 - D Control and Catharsis

UNIT 21

Questions 62 and 63

Rachel has a business laying carpet squares. The carpet squares are 1 square metre (m^2) and come in four different colours (black, white, red and blue). Rachel lays the squares in such a way that squares of the same colour do not share an edge.

All floors are rectangular and X can equal Y.



Assume that X and Y are whole numbers (1, 2, 3...).

- 62** Rachel carpets a floor with red, black and white carpet squares. Half of the carpet squares she uses are white.

If both X and Y are even, then Rachel must use an odd number of black carpet squares when there

- A** is also an odd number of red carpet squares.
- B** is also an even number of red carpet squares.
- C** are also half as many red carpet squares as black carpet squares.
- D** are also half as many black carpet squares as white carpet squares.

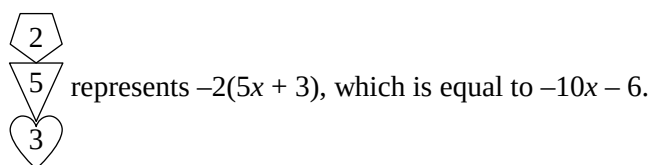
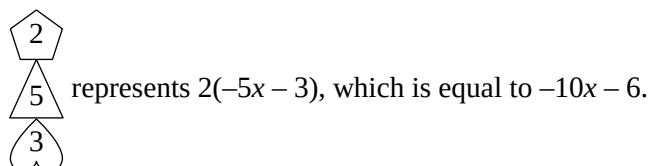
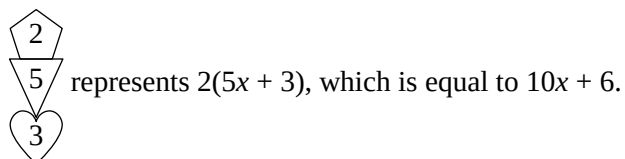
- 63** Suppose Rachel carpets a floor with only red and blue carpet squares and uses fewer red than blue squares.

Which of the following could be the size of the floor?

- A** $X = 6$ and $Y = 15$
- B** $X = 15$ and $Y = 7$
- C** $X = 6$ and $Y = 12$
- D** $X = 12$ and $Y = 12$

UNIT 22

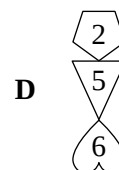
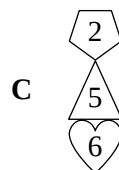
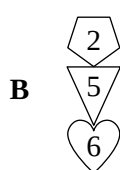
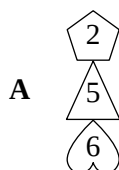
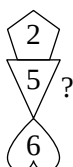
Questions 64 – 66



Note: the rules for multiplying integers are

positive $\times$ positive = positive
 negative $\times$ positive = negative
 positive $\times$ negative = negative
 negative $\times$ negative = positive

64 Which of the following is equal to



65 If $\frac{\begin{array}{c} \text{2} \\ \text{1} \\ \text{5} \end{array}}{\begin{array}{c} \text{1} \\ \text{5} \end{array}} = \frac{\begin{array}{c} \text{3} \\ \text{1} \\ \text{1} \end{array}}{\begin{array}{c} \text{1} \\ \text{1} \end{array}}$, what is the value of x ?

- A 4
B 6

- C 7
D 13

66 If $\frac{\begin{array}{c} \text{1} \\ x \\ \text{4} \end{array}}{\begin{array}{c} x \\ \text{4} \end{array}} = 0$, then x could be

- A -2 only.
B 2 only.

- C 4 only.
D either -2 or 2.

UNIT 23

Question 67



"I used to call people, then I got into emailing, then texting, and now I just ignore everyone."

- 67 The man speaking in the cartoon seems to be
- A anxious about social networking.
 - B complacent about social networking.
 - C anxious about his friendship with the other man.
 - D complacent about his friendship with the other man.

UNIT 24

Questions 68 – 70

The following questions refer to the paintings on the opposite page. The paintings are of the same scene. Picasso painted his version of Velázquez's painting three hundred years after the original.

- 68** The figure who is wearing the white dress in both paintings is the Infanta (daughter of the Spanish King and Queen).

Which of the following is the most accurate comment about the Infanta?

She appears to be

- A** secondary to all the action taking place around her in both paintings.
- B** a calm figure who appears to be the centre of attention in both paintings.
- C** more dominant in Picasso's painting than she is in Velázquez's painting.
- D** shy and retiring in Velázquez's painting but robust and active in Picasso's version.

- 69** In Figure 1, Velázquez has painted himself into the picture as the figure on the far left.

Which of the following quotations best describes the same figure in Picasso's painting?

- A** 'He is the most complex figure in the painting.'
- B** 'He is the most ordinary figure in the painting.'
- C** 'He has become the central focus of the painting.'
- D** 'He is the most recognisable figure in the painting.'

- 70** Which one of the following pairs best describes the difference between the visual space of the palace room as it is depicted in each painting?

In Velázquez's painting the space appears ...

- A** suffocating and constricted.
- B** cluttered and messy.
- C** forbidding and tense.
- D** vast and deep.

In Picasso's painting the space appears ...

- relaxed and unobstructed.
- expansive and uncontrolled.
- formal and conventional.
- flattened and crowded.



Figure 1
Las Meninas by Velázquez, 1656



Figure 2
Las Meninas (after Velázquez) by Picasso, 1957

GAT 2016 Source References

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Mark Anderson, Andertoons, <http://www.andertoons.com/cartoon/4054/>

Adapted from Figure 22 in *The Mining Industry: From Bust to Boom* by Ellis Connolly and David Orsmond, published by the Reserve Bank of Australia, 2011, <http://www.rba.gov.au/publications/rdp/2011/pdf/rdp2011-08.pdf>. Data sourced from the Australian Bureau of Statistics. Reproduced by permission of the Reserve Bank of Australia

From 'Nixon' in *Nineteen Seventysomething* by Barry Divola, published by Affirm Press 2010. Reproduced by permission of Barry Divola

Diagram of Russian Campaign: <https://en.wikipedia.org/wiki/File:Minard.png>

Emily Kam Ngwarray~Anmatyerr*, *Anwerlarr anganenty (Big yam Dreaming)*, 1995, synthetic polymer paint on canvas, 291.1 x 801.8 cm. National Gallery of Victoria, Melbourne. Presented through The Art Foundation of Victoria by Donald and Janet Holt and family, Governors, 1995 (1995.709); © Emily Kam Ngwarreye/licensed by Viscopy, 2017

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From 'Kwementyay Ngwarreye's *Big yam Dreaming*' by Judith Ryan, in *Art Bulletin of Victoria* 37, published by Council of Trustees of the National Gallery of Victoria 1997. Reproduced by permission of the National Gallery of Victoria

**Different sources use different spellings for the artist's name and her artwork.*

Velázquez's painting, *Las Meninas*: <http://www.artchive.com/meninas.htm>

Picasso's painting, *Las Meninas*: <http://www.artchive.com/artchive/P/picasso/meninas.jpg.html>; Pablo Picasso, *Las Meninas* (after Velázquez) © Photo Scala, Florence