



**BROAD HORIZON**  
— TUITION CENTRE —

# **Mock Exam 42**

# **ANSWERS**

**Year 5**

**GL Practice Papers**

## **Broad Horizon Tuition**

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**BROAD HORIZON**  
— TUITION CENTRE —

# **11+ Birmingham and Warwickshire**

## **Practice Test 7**

**Paper A**  
**Answers**



## Teacher's Guide

### Mock Exams

#### 1) Timing

Each section is individually timed. Timings are written on the teachers answer sheet (at the end of this guide).

Practice questions are completed outside of the time limit.

Students must get used to working out their **start and end times** and jotting them down on their exam paper, for every single section. Teachers must not tell students the start and end times, they need to work it out for themselves.

**E.g.**

Start 11:07

End 11:22

Might be a good idea to stop their time 30 seconds into the section and check who did and did not work out their start and end times (the vast majority won't have, or they will only do it for the first section and forget about it for the rest of the mock). This calculation must **only** be done once their time has started, because they're not allowed to write anything outside of the time limit.

Students **cannot** manage their time if they don't even know what time they're going to finish, and they cannot know what time they're going to finish if they don't know what time they started.

Every few minutes students should be **looking at the clock** so they know whether they're working too fast or too slow.

Also, for the really short sections, like NVR 3 minutes we don't advise they spend time writing down start and end times, since the time is so short, they can't afford to waste it, they should just look at the clock and know what time they're going to finish.

In the 11 plus exam, they won't have a digital timer on the board, they need to **get used to keeping an eye on the clock.**

The teacher should have their own digital timer which only they can see, maybe on their phone, or even on the tablet. Please turn off the TV screens so students can not use the digital time as they won't have this in their real exams.

Time limits are not so strict at this stage. It's their first mock exam. If they need a few extra minutes to finish, we can give them that. Timings will become stricter as the months go on with absolute strict timings around July/August.

You should **go straight into the mock exam** at the start of the lesson, do not start with marking homework, you'll run out of time on the mock.

Keep in mind it will take about 25/30 minutes to read out the answers and collect in the scores.

The mock exam itself will take about 90 minutes plus 30 minutes marking and collecting scores plus break in between, plus the extra time, this will easily take up the majority of the lesson.



### 3) Marking and Cheating

The pressure of achieving good scores **will** cause students to cheat whilst marking their work even if they seem like the type not to cheat. We've learnt over the years there isn't a type who cheat, when the pressure is on – they are all capable of it. Every year we see some of the most intelligent students, very capable, yet perform poorly on the exams because they cannot handle the pressure. Unfortunately, the pressure comes hand in hand with exams like the 11 plus and this is something we need students to get over as quickly as possible.

Anyone who gets over 45% their papers will be collected in and one of the admin team will re-mark their exam paper to double check them.

Please warn students about marking their work correctly before you start marking.

We need to get cheating out of their system very early on. We cannot help the students if we think they are doing really well, when the reality is otherwise.

All mock exams are self-marked in a different coloured pen (no peer marking, that has its own issues), so nobody should be seen holding a pencil whilst marking. They will often leave the boxes blank during the exam and then fill them in whilst you read out the answers and then tick them. Another common one is for them to write in multiple answers for 1 question and then tick them. Quite often they might only cheat on a few questions per section thinking it won't arouse suspicion, but those marks add up.

It might be a good idea to **collect in all the answering sheets** once you're done marking, and just have a quick flick through the pages.

#### 4) Lesson Format

It is likely the entire lesson will be spent on the mock exam.

Students must complete the entire mock exam before we mark. We don't mark after each section like in a normal lesson; students need to **get used to the intensity** of sitting two-1-hour papers. They can have their break around their usual break time, however, please ensure it's at the end of a section and we're not stopping in the middle of a section to have a break.

They'll be given a 2nd blank answering sheet, which they take home and re-attempt the entire paper again from scratch – this is the homework on a mock exam week.

At the start of the following lesson, you'll mark their 2nd attempt, log their 2nd attempt scores on excel, and then go through the entire mock exam **question by question and explain anything they've got wrong**. (If there happens to be time left, you'll start the next lesson pack.)

#### 5) Parent-Teacher Meetings

Meetings with parents will follow the first few mock exams, so we can **address any issues early on**.

We need to put plans in place for students who are struggling in specific areas, we can print extra content for them to cover at home, extra work for them to do during their holidays etc. Please let the manager know what work is needed and for which students so we can get this printed for them and **put a plan of action in place**.

Any plans put in place, please log them on **Trello** so the whole team is onboard and aware.

## 6) Students Answering Sheets

There is to be **no** working out on the answering sheet itself, answering sheets need to be clean. Working out on the exam paper only.

Students must rub out wrong answers and not cross them out.

Students must tick the answering sheet as they go along and not transfer their answers at the end, if they get used to transferring answers at the end and they run out of time, they could end up losing marks for entire sections.

Again, it might be a good idea to collect in all the answering sheets once you're done marking, and just have a quick flick through the pages.

## 7) Equipment

There is to be **no** use of **any** other equipment such as highlighters, pens, rulers, protractors etc.

Pencils and erasers only.



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## **Paper 1**

**English Comp 1 – 12 Minutes**

**Verbal Reasoning 1 - 8 Minutes**

**Maths 1 - 15 Minutes**

**Non -Verbal 1:**

Subsection 1 – 3 Minutes

Subsection 2 – 3 Minutes

Spatial Subsection 1 – 3 Minutes

## **Paper 2**

**English Comp 1 – 12 Minutes**

**Verbal Reasoning 1 - 9 Minutes**

**Maths 1 - 15 Minutes**

**Non -Verbal 1:**

Subsection 1 – 3 Minutes

Subsection 2 – 3 Minutes

Spatial Subsection 1 – 3 Minutes

# English

## Practice Section

- 1 E
- 2 A

## Test

- 1 D

We can infer that Titus was Mojisola's partner because when Modupe slept in the bed with Mojisola and the baby, Titus would go to the spare room (telling us that normally Titus was in the same bed as Mojisola). We can also deduce he was Mojisola's partner from the way he gets annoyed when Modupe shows up unannounced. It would not make sense for any of the other answer choices to get annoyed.

- 2 C

There is nothing to suggest Mojisola was hugely grateful for Modupe's help. We can infer that Modupe professed she was sent signs (messages) to visit Mojisola because when she visited, she claimed 'to have dreamt something, to have seen something in the bush behind her house' (lines 8–9). She interprets her dream, or what she sees in the bush, as a sign she should visit Mojisola. Modupe was a capable woman from the way she moved in and presumably took care of the baby. We can infer Mojisola did not adapt quickly to motherhood from the fact she was 'in a kind of stupor' for 'almost a year' (line 4). Modupe lived with Mojisola for about a year because she moved out when Mojisola started to feel better, which was after about a year. We can tell this from the order of events in the narrative.

- 3 A

The word 'stupor' means *daze, inertia, numbness*, etc. You should be able to work this out from how passive Mojisola seems, allowing Modupe to move in and even sleep in her bed.

- 4 C**  
'much to Titus's chagrin, she would arrive unannounced' (line 10). The word 'chagrin' means *annoyance*. If you are annoyed, you are angry.
- 5 E**  
She is portrayed as being *ensorious* (severely critical), so this is how Mojisola would be most likely to describe her. 'Mojisola withstood the criticism that came her way' (lines 19–20). This tells us that Mojisola felt Modupe was critical of her. The word 'obliging' means agreeable and helpful, but there is nothing to suggest that Mojisola found her agreeable. There is also nothing to suggest she found her rational, sprightly or decrepit.
- 6 E**  
It is an idiom, i.e. it is a common expression in which the words are not being used in their literal sense. Mojisola did not use a pen or pencil to draw a line. The idiom 'draw the line' means *to put a limit on what you will do or allow to happen*.
- 7 D**  
Modupe refused to eat the food Mojisola offered her: 'turning her nose up at whatever leftovers Mojisola inevitably offered her' (lines 13–14). If you turn your nose up at something, you refuse to accept it because you do not think it is good enough.
- 8 A**  
We know Mojisola *did* appreciate Modupe's cooking: 'It's true that they ate better during those visits so Mojisola withstood the criticism that came her way' (lines 18–20). This tells us Mojisola appreciated Modupe's cooking enough to put up with her criticism.
- 9 B**  
We have evidence that Mojisola saw her mother as *self-assured* (confident). 'There was a poise to both women [Modupe and Mojisola's mother]' (line 40). The word 'poise' means calm confidence.

**10 C**

If you *indict* someone, you officially accuse them of something. The quote is telling us that Modupe could not find anything to accuse Mojisola of when she examined the baby. This makes the reader feel that Mojisola was a better mother than she seemed to think she was. She seems to feel she was barely coping: 'How could a child – a simple small being – have come and shifted her so?' (lines 44–45), but we feel she must have been doing pretty well for Modupe to find nothing to complain about when she looked closely at the baby.

**11 D**

We can infer she was a biologist from: 'she still dreamt of being assigned back onto the team documenting the biome' (lines 45–46). A 'biome' is a large community of plants and animals that occupies a distinct region. A biologist is concerned with living organisms (i.e. animals and plants).

**12 C**

The words 'she' and 'her' are pronouns. A pronoun is a word that is used instead of a noun or noun phrase. They are often used to refer to a noun that has already been mentioned. The word 'she' is used instead of 'Mojisola' and 'her' is used instead of 'Mojisola's'.

**13 A**

The word 'nastier' is a comparative adjective. A comparative adjective is a word that makes a comparison. The word 'nastier' tells us that Mojisola's boss was already nasty but became *more* nasty (*nastier*) after being rejected for promotion.

**14 B**

If somebody behaves in an *ingratiating* way, they try to make people like them. There is nothing to suggest that Mojisola's boss was ingratiating. We can infer he was *bitter* (resentful) due to not being promoted, which is why he became nastier. He sounds *unattractive* because he is described as 'greasy-faced'. He was *plump* ('rotund' means plump), and we know he was *disagreeable* because he was 'nasty'.

**15 D**

You can work this out logically. A person *enters* the world when they are born. Mojisola is saying that she cannot imagine her mother struggled when she gave birth to her.

# Verbal Reasoning

## Practice Section

- 1 **ARE** (PARENTS)
- 2 **RAN** (RESTAURANT)
- 3 **Police secretly** (The hidden word is 'ices'.)
- 4 **Her baby** (The hidden word is 'herb'.)

## Test

- 1 **INK**  
The cream is supposed to get rid of WRINKLES.
- 2 **TAR**  
The prisoner was placed in SOLITARY confinement.
- 3 **GEM**  
My sister will announce her ENGAGEMENT at the party.
- 4 **HOB**  
My father is a TECHNOPHOBE.
- 5 **BAT**  
Dan plans to join the DEBATING society at university.
- 6 **MAN**  
My brother DISMANTLED his radio to see how it worked.
- 7 **POT**  
Leo loves to be in the SPOTLIGHT.

**8 TOE**

The POTATOES are delicious and crispy.

**9 avocado neatly**

The hidden word is **done**.

**10 submarine attacked**

The hidden word is **neat**.

**11 Wilf logically**

The hidden word is **flog**.

**12 his lowered**

The hidden word is **slow**.

**13 guru delivered**

The hidden word is **rude**.

**14 her barrister**

The hidden word is **herb**.

**15 Grandad ripped**

The hidden word is **drip**.

**16 muffin every**

The hidden word is **fine**.

# Mathematics

## Practice Section

- 1 C  
2 A

## Test

- 1 C Point A is at (7, 6).

Reflecting in the  $x$ -axis changes the sign of the  $y$ -coordinate from + to -.

Reflecting in the  $y$ -axis changes the sign of the  $x$ -coordinate from + to -.

[Position and Direction]

- 2 C  $£0.22 \times 12 = £2.64$

$$£5.00 - £2.64 = £2.36$$

The fewest coins that can be used to make this amount are:

$$£2 + 20p + 10p + 5p + 1p$$

That is five coins.

[Money]

- 3 B The probability of landing on black is one-eighth, which is 0.125 or 12.5% (think half of a quarter).

[Probability]

- 4 B If the length is twice the width, then the perimeter can be considered six widths added together.

$$66 \text{ m} \div 6 = 11 \text{ m}$$

[Perimeter, Area and Volume]

- 5 C**  $3 \times 12 \text{ litres} = 36 \text{ litres}$   
 $36 \times 1000 = 36\,000 \text{ ml}$   
 $36\,000 \div 60 = 3600 \div 6$   
 $3600 \div 6 = 100 \times (36 \div 6) = 600 \text{ eggcups}$

[Measurements]

- 6 A** The left clock shows 8.35  
The right clock shows 4.08  
The difference between 8.35 and 4.08 is 7 hours 33 minutes.  
(Of course it could be bigger if the clock has made more revolutions,  
but none of the given options is large enough for this.)  
Remember to then subtract 2 hours for the time difference.

[Measurements]

- 7 A** Compare the digits in the tenths place, then the digits in the hundredths place, then the digits in the thousandths place, and so on.

[Estimation and Place Value]

- 8 D** The whole pie is  $360^\circ$ .

$$\frac{72}{360} = 0.2 \text{ or one-fifth of the total.}$$

So, one-fifth of 250 students chose chess, which is  $250 \div 5 = 50$ .

Which means  $50 \div 10 = 5$  students chose hockey.

62% of 250 is 155, so 155 students chose football or gaming.

$$50 + 5 + 155 = 210$$

Which leaves 40 for the remaining two equal segments: swimming and painting.

So, 20 students voted for each of these.

[Statistics]

- 9 A** Divide by eight and multiply by five.

[Ratio and Proportion; Money]

- 10 C** Parallel means moving in the same direction (so the lines never touch).

Perpendicular means at a right angle (but lines do not need to touch to be perpendicular).

[Properties of Shapes]

- 11 E** From the graph, the price for 250 g in 2023 is 232 p.

The price in 2016 was 136 p.

The difference is 96 p.

So, the difference for 1 kg is  $96 \text{ p} \times 4 = 384 \text{ p} = \text{£}3.84$ .

[Statistics; Money]

- 12 C** A decagon has 10 sides.

$$360^\circ \div 10 = 36^\circ$$

$$180^\circ - 36^\circ = 144^\circ$$

[Angles and Degrees; Properties of Shapes]

- 13 A** 2 zods = 3 zids

$$1 \text{ zid} = 6 \text{ zads}$$

$$2 \text{ zods} = 3 \times 6 = 18 \text{ zads}$$

$$1 \text{ zod} = 18 \div 2 = 9 \text{ zads}$$

[Algebra]

- 14 C**  $0.54 = \frac{54}{100} = \frac{27}{50}$

[Fractions, Decimals and Percentages]

- 15 A** Currently, B is two down and four right from A.

When Pete doubles the side lengths, this will double in each direction.

So, B will now be four down and eight right from A.

A has coordinates (2, 8).

$$\text{New } x\text{-coordinate of B} = 2 + 8 = 10$$

$$\text{New } y\text{-coordinate of B} = 8 - 4 = 4$$

So, B will be at (10, 4).

[Position and Direction]

# Non-Verbal Reasoning

## Subsection 1

### Practice Section

- 1 **C** (The shapes all have an odd number of sides.)
- 2 **E** (The figures are all rotations of the same shape.)

### Test

- 1 **D**  
The shapes on the left all have five sides.
- 2 **C**  
Each figure on the left is made up of a large white shape and a small, grey reflected version of the same shape.
- 3 **D**  
Each figure on the left is made up of a small four-sided shape inside a larger shape that has curved sides only.
- 4 **B**  
Each figure on the left has one line of vertical symmetry.
- 5 **B**  
Each figure on the left contains two identical small shapes, one inside an identical large shape and one outside, joined by a solid line. The outer small shape is shaded black.
- 6 **C**  
Each figure on the left consists of two four-sided shapes.
- 7 **A**  
In each figure on the left, the number of internal lines equals the number of black dots. Each line crosses at least one other line and there is no more than one dot in each section.
- 8 **C**  
Each figure on the left has the same configuration of squares and arrow. The arrowhead always points away from the squares. One square has a cross fill and the other has a black or white circle.

# Non-Verbal Reasoning

## Subsection 2

### Practice Section

- 1 **E** (From left to right, the outline of each shape changes to dotted.)
- 2 **A** (From left to right, there is one less side on each shape.)

### Test

- 1 **B**  
From left to right, the shapes are reflected in the vertical and the striped shading rotates  $90^\circ$ .
- 2 **E**  
From left to right, each shape reflects across the vertical to form one large symmetrical shape, and the shading changes from grey to white.
- 3 **A**  
From left to right, the lower shape in each small triangle enlarges and the upper shape moves inside it.
- 4 **B**  
From left to right, each shape splits into three parts. The position of the black circle in the first matrix determines which third of each shape is shaded black in the second matrix.
- 5 **B**  
From left to right, the shapes move one position clockwise around the matrix (spiralling inward) and enlarge. The shading of the triangles in the first matrix determines the shading of the next shape anticlockwise.
- 6 **C**  
The small shapes inside the central triangle of each matrix reflect out to the opposite triangle in the opposite matrix (the different line styles are a distractor).

**7 D**

From left to right, the shapes move clockwise around the matrix (spiralling inward), enlarge and take the line style from the line in the triangle that corresponds with its new position.

**8 D**

The small shapes in the centre triangle of the left-side matrix rotate  $180^\circ$ , enlarge and go to the opposite outside triangle in the right matrix. These large shapes take their line style from the lower left circle in the triangles in the left matrix. The small upper shapes in the left matrix then move into these enlarged shapes, taking their shading from the lower right circle.

# Spatial Reasoning

## Practice Section

- 1 A
- 2 E

## Test

Try to visualise what the cube will look like when folded up.

Remember, faces that are separated by one square on the net will be on opposite sides of the cube – they cannot be next to each other.

Pay attention to the orientation of the different shapes in relation to each other and think about how they will rotate when the net folds.

- 1 B
- 2 D
- 3 C
- 4 A
- 5 E
- 6 D
- 7 B
- 8 E



**BROAD HORIZON**  
— TUITION CENTRE —

# Mock Exam 42

11+ Birmingham and Warwickshire

## Practice Test 7

### Paper B Answer Sheets

- This paper is divided into smaller, individually-timed sections that test English Comprehension, Verbal Reasoning, Mathematics and Non-Verbal / Spatial Reasoning.
- Each section starts with some untimed practice questions.
- All answers should be marked on the separate answer sheet provided.

**Please turn over the page to begin the English Practice section.**

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# English

## Test

1 C

The atmosphere is *sinister* (threatening). The idea of a stranger lurking (hiding) in the shadows is unsettling. We feel that someone would only hide in the shadows if they had evil intentions. The word *mysterious* does not get across the potential threat.

2 E

The word 'recess' can be a noun or a verb, and the answer options all describe different meanings of the word. In line 3, the word is used to refer to the doorways, corners and other nooks that become dark and shadowy after nightfall, i.e. the nooks and spaces that are set back from the rest of the wall.

3 E

We know the word 'blackout' is being used to mean a period when all lights have to be turned out or concealed, because the extract is set during WWII. Blackouts were used to prevent the enemy from being able to see their targets. 'But now the War was almost over and the blackout would end soon' (lines 36–37).

4 B

It is a metaphor because the word 'wrapped' is not being used literally – you do not literally wrap (cover) yourself in a mood.

5 A

'Besides, it was London that was getting the worst of them [the flying-bombs]. And the southern counties' (lines 44–45). This tells us Great Deeping did not have to worry about flying-bombs because it was London and the southern counties that most of the bombs were targeting. Therefore, Great Deeping was not in London and not in a southern county, ruling out B, C, D and E.

6 C

The Abigail that Molly knew in 1944 (i.e. before Abigail started to change on the 'cold Friday afternoon in January' 1945) was *predictable*. 'She **never** put you down; she **never** wrapped herself in impenetrable moods; she **never** sulked; and she **never** froze you out with chilly silences' (lines 16–17). Her predictability is emphasised with the repetition of 'never'. Molly knew what to expect from Abigail because Abigail was predictable and would never do certain things.

7 D

This is foreshadowing. Foreshadowing is when the reader is given a hint of what is to come. The girls regularly walked past the recesses where a stranger could lurk. This makes us feel that there is something bad in store for them and they will face some sort of danger from what lurks in the shadows. The words 'Carelessly, trustingly' (line 11), make us feel there is a reason why they should not be careless and trusting.

8 E

This phrase by itself is *ambiguous* (open to more than one interpretation). Does it mean the end of 1945 (December 1945 could be called the winter of 1945) or the beginning of 1945 (January 1945, for example, could be the winter of 1945)? We need more information to be sure.

9 D

The adjective 'elusive' can be used to describe someone or something that is difficult to catch or pin down. Here it describes the rumours and the lurker. The word *slippery* is a synonym of 'elusive'.

10 C

There is nothing to suggest Abigail was *fearless*, but we can deduce that she had all of the other qualities *prior* to the 'cold Friday afternoon in January': 'When Molly thought about Abigail, the word that came to mind was faithful. She never put you down; she never wrapped herself in impenetrable moods; she never sulked; and she never froze you out with chilly silences' (lines 15–17). We can infer from this that she was *loyal*, *warm*, *amiable* and *kind*, as she was faithful, did not put people down, was not sulky and was not cold. Be careful – *fearless* does not mean the same as *careless*; it means brave and daring.

**11 E**

Personification is when something non-human is given human characteristics (e.g. *the flowers nodded happily*). We do not have an example of this in the extract. We have a third-person narrator, because the narrator is not a character in the story. We have a flashback (we go back to a scene that is earlier than the main part of the story). We have lines 32–35 that are a flashback to 1939. We have onomatopoeia with ‘*Buzzbombs*’ (line 42). This is when the sound of a word reflects the meaning. We have direct speech (the actual words of a speaker): e.g. “‘Mr Wayne! How can you see what you’re doing?’” (line 28)

**12 D**

We can describe Abigail as *unsuspecting* when she was walking home from school on the ‘cold Friday afternoon in January’ because she was feeling ‘weightless and happy’ (line 22), meaning she was carefree, but we know something of significance is about to happen to her that will change her and send her ‘off in some unpredictable directions’ (line 18). We can infer it will be something unpleasant and unexpected because of the sinister atmosphere created at the start and the fact that she becomes unpredictable. Her being ‘weightless and happy’ tells us she suspects nothing.

**13 D**

The word ‘weightless’ tells us they were feeling carefree (they were not weighed down by any worries). The fact that they ‘felt weightless’ should help you work this out. The word ‘felt’ tells us it is to do with how they were feeling emotionally.

**14 A**

There are no prepositions in this sentence. A preposition is a word that tells you where or when something is in relation to something else (e.g. *under, in, before*). The word ‘Besides’ is not being used as a preposition; it is being used as an adverb to mean *also*.

**15 A**

‘Like a shot’ is an idiom meaning *at once* or *instantly*. You should be able to work this out from the context. In the height of the war, the air raid wardens would obviously want any visible light concealed instantly (immediately) to try to avoid the threat of bombs.

# Verbal Reasoning

## Practice Section

- 1 **thick** and **thin** (Adjectives with opposite meanings.)
- 2 **stop** and **start** (Verbs with opposite meanings.)
- 3 **nip** (Letters 6, 5 and 4 of *pat* and *tin*.)
- 4 **cot** (Letters 6, 7 and 1 of *tease* and *comfy*.)

## Test

- 1 **amble** and **stride**

To *amble* is to walk slowly and in a relaxed manner; to *stride* is to walk with quick, long steps.

- 2 **melodious** and **discordant**

A *melodious* sound is pleasant to listen to; a *discordant* sound is unpleasant to hear.

- 3 **apathy** and **enthusiasm**

*Apathy* is a lack of interest or enthusiasm; *enthusiasm* is a keen interest or eagerness.

- 4 **destitute** and **affluent**

Someone who is *destitute* has no money or possessions; someone who is *affluent* has lots of money.

- 5 **prevalent** and **uncommon**

Something that is *prevalent* is widespread or common; something that is *uncommon* is rare or unusual.

**6 threadbare and unused**

Something that is *threadbare* is frayed or worn because it has been used a great deal; something that is *unused* has not been used at all.

**7 sage and unwise**

The adjective *sage* means wise or prudent; the adjective *unwise* means lacking wisdom or prudence (foolish).

**8 curtail and extend**

The verb *curtail* means to cut short; the verb *extend* means to draw out or lengthen.

**9 tip**

Look at the first set of words.

Number the letters in 'album' and 'learn' from 1–10.

The word in square brackets, 'all', is made from letters 1/8, 2/6 and 2/6.

Number the letters in 'finer' and 'patch' in the same way.

The letters 1/8, 2/6 and 2/6 give you f/t, i/p, i/p.

Looking at the answer options, the answer must be 'tip'.

**10 walk**

Using the same method as for Q9.

The word 'teen' is made from letters 1, 4/5/7, 4/5/7 and 8 of 'tire' and 'even'.

Applied to the second set of words, this gives you w, l/a/o, l/a/o, k.

Looking at the answer options, the answer must be 'walk'.

**11 rest**

The word 'dive' is made from letters 3, 4/10, 11 and 2/12 of 'median' and 'arrive'.

Applied to the second set of words, this gives you r, o/e, s, t.

So, the answer must be 'rest'.

**12 prong**

The word 'tiger' is made from letters 8, 3, 1, 5/7/10 and 2/9 of 'grime' and 'metre'.

Applied to the second set of words, this gives you p, r, o, s/n/t, g/u.

Looking at the answer options, the answer must be 'prong'.

**13 way**

The word 'rap' is made from letters 4/7, 3 and 5/6 of 'sharp' and 'prime'.

Applied to the second set of words, this gives you k/w, a, y/a.

Looking at the answer options, the answer must be 'way'.

**14 each**

The word 'mare' is made from letters 10, 2/9, 5/7 and 4/8 of 'water' and 'dream'.

Applied to the second set of words, this gives you e, a/l, t/c, h/a.

Looking at the answer options, the answer must be 'each'.

**15 more**

The word 'grit' is made from letters 6/7, 3/8, 10 and 2 of 'strong' and 'grainy'.

Applied to the second set of words, this gives you e/m, o, r, e.

So, the answer is 'more'.

**16 they**

The word 'pare' is made from letters 5/12, 10, 7/11 and 6/13 of 'whisper' and 'sharpen'.

Applied to the second set of words, this gives you t/n, h, e, h/y.

Looking at the answer options, the answer must be 'they'.

**17 B**

The order is Mara, Lara, Sara, Zara.

Then Dara is placed one above Zara, which puts her equal with Sara.

**18 C**

All darts players play snooker and all snooker players play pool.

Therefore, all darts players play pool.

The other statements cannot be proved or disproved from the given information.

# Mathematics

## Test

- 1 B** The prime numbers from 1–6 are 2, 3 and 5.  
So, 3 out of 6 are the numbers are prime.  
This is the same as one-half.  
[Special Numbers; Probability]
- 2 B** Between a and b, they travelled 60 km in 45 minutes.  
That is 20 km in 15 minutes, which is equivalent to 80 km in 60 minutes, i.e. 80 kilometres per hour.  
[Statistics; Speed, Distance and Time]
- 3 C** Be careful – it looks like you might be able to draw a rectangle on a diagonal, but the corners would not be right angles; it is actually a parallelogram.  
[Properties of Shapes]
- 4 A** 3D shapes with 5 faces are 'pentahedrons', of which there are two you should know: triangular prism and square-based pyramid.  
Only the pyramid has a vertex shared by four faces.  
[Properties of Shapes]
- 5 C** Add up all of the values and divide by five.  
 $285 + 180 + 35 + 65 + 180 = \text{£}745$   
 $\text{£}745 \div 5 = \text{£}149$   
[Statistics]

- 6 E** Dividing by smaller numbers gives larger results.  
The results are: 3000, 30, 3000, 300 and 30 000.  
[Operations]
- 7 B** The fold line acts like a mirror line – the shape is reflected across it to produce a symmetrical shape.  
[Reflection, Rotation and Symmetry]
- 8 D**  $Y = 3Z$  and  $X = 2Y$   
So,  $X = 6Z$   
 $X + Y + Z = 3Z + 6Z + Z = 10Z$   
 $10Z = 180^\circ$   
 $Z = 18^\circ$   
 $Y = 3Z$   
 $Y = 3 \times 18 = 54^\circ$   
[Angles and Degrees; Algebra]
- 9 D**  $10 \text{ km} = 10 \times 25 \text{ p} = 250 \text{ p}$   
There is a 500 p base fare.  
 $500 \text{ p} + 250 \text{ p} = 750 \text{ p}$   
 $1750 \text{ p} - 750 \text{ p} = 1000 \text{ p}$   
Which is  $1000 \text{ p} \div 50 \text{ p} = 20$  minutes  
[Operations; Money]
- 10 C**  $80 \times 50 \times 70 = 280\,000 \text{ cm}^3$ .  
 $100 \text{ cm}^3$  per 30 seconds is  $200 \text{ cm}^3$  per minute.  
 $280\,000 \div 200 = 1400$  minutes  
[Perimeter, Area and Volume; Speed, Distance and Time]

**11 A**  $15 \times 2 = 30$   
 $30 \div 3 = 10$   
 $10 \times 10 = 100$   
 $100 - 5 = 95$   
 $95 \times 2 = 190$

[Operations]

- 12 C** A is false: odd  $\times$  even = even.  
B is false: 1 cubed is the same as 1 squared.  
C is true: negative  $\times$  negative is always positive.  
D is false: positive  $\times$  negative = negative.  
E is false: even + odd = odd.

[Special Numbers]

- 13 D** The first person has four hands to shake.  
The second has already shaken one hand, so has three more to shake.  
The third person has already shaken two, so has two more to shake.  
The fourth person has one left to shake.  
The last person has already shaken hands with all the other people.  
 $4 + 3 + 2 + 1 + 0 = 10$

[Operations]

**14 A**  $3.5\% = 0.035$   
 $\frac{1}{20} = 0.05$   
 $\frac{2}{50} = \frac{4}{100} = 0.04$   
 $4\% = 0.04$

[Fractions, Decimals and Percentages]

**15 B**  $82 + 24 + 41 = 147$

$$18 + 11 = 29$$

$$147 - 29 = 118$$

[Operations]

# Non-Verbal Reasoning

## Subsection 1

### Practice Section

- 1 A** (A = black and E = rectangle)
- 2 D** (M = odd number of shapes and N = white)

### Test

- 1 E**  
The first letter codes for the type of large shape; the second letter codes for type of small shape; and the third letter codes for the shading of the large shape.
- 2 C**  
The first letter codes for the type of small shape; the second letter codes for the line style of the large shape; and the third letter codes for the orientation of the large shape.
- 3 D**  
The first letter codes for the number of thick vertical lines on the arrow; the second letter codes for the direction of the arrow; and the third letter codes for the shading of the arrowhead.
- 4 B**  
The first letter codes for the number of divisions in the shape; the second letter codes for the type of shape; and the third letter codes for the shading of the divisions.
- 5 A**  
The first letter codes for the type of shapes; the second letter codes for the shading of the shapes; and the third letter codes for the number of shapes.
- 6 A**  
The first letter codes for the line style of the large shape; the second letter codes for the type of horizontal line inside the large shape; and the third letter codes for the type of small outer shape.

**7 E**

The first letter codes for the position of the circle under the horizontal line; the second letter codes for the horizontal line style; and the third letter codes for the small shape above the line.

**8 D**

The first letter codes for the type of shape in the centre of the figure; the second letter codes for the configuration of lines to the left of the figure; and the third letter codes for the direction of the arrow on the right of the figure.

# Non-Verbal Reasoning

## Subsection 2

### Practice Section

- 1 B** (The figure rotates  $60^\circ$  clockwise each time.)
- 2 C** (The question mark rotates  $90^\circ$  anticlockwise each time, and there is one more intersection of lines.)

### Test

- 1 C**  
Circles fill the lower row of triangles and triangles fill the upper row. The shading of the shapes is the same in adjacent pairs.
- 2 B**  
The first figure in each pair of triangles flips in the second and the shapes swap shading.
- 3 E**  
From left to right, an extra hexagon is added each time and the shading alternates between white and grey.
- 4 A**  
From left to right, the figure rotates  $60^\circ$  clockwise each time. The style of lines are in pairs and the circle and triangle alternate.
- 5 E**  
From left to right, the shapes alternate between a hexagon and a circle and they divide into halves and then quarters along the series.
- 6 D**  
From left to right, the shapes repeat every third triangle and they are shaded in pairs.

**7 C**

From left to right, the large shapes alternate each time; the small shapes repeat every three triangles; the fill of the small shapes alternates; and the line style of the large shapes is in pairs.

**8 B**

From left to right, the figure rotates  $60^\circ$  clockwise each time, gaining an extra curve and losing a short thick line from the left end.

# Spatial Reasoning

## Practice Section

- 1 B
- 2 A

## Test

- 1 D
- 2 C
- 3 B
- 4 A
- 5 E
- 6 C
- 7 E
- 8 D