

# Answers

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## Practice Paper 1A: English and Verbal Reasoning

### English: King Alfred the Great (pages 6 to 8)

1	A	The main purpose of the opening paragraph is to highlight that King Alfred is considered a great monarch.
2	B	Alfred used his determination and intelligence to win a book of poems.
3	D	King Alfred didn't want to give money to the Vikings because he didn't want to help them become richer and more powerful.
4	E	It is not true that King Alfred was widely known for his baking skills. He was known for burning cakes.
5	D	The section 'Alfred the Defender' tells the reader about Alfred's forts around the settlements.
6	C	The text is biographical. It is about the life of King Alfred the Great.
7	B	The closest meaning to 'vanquish' is 'to completely defeat' something.
8	D	To describe the Vikings as 'fearsome' means they were 'very frightening'.
9	A	The words 'Wessex', 'Alfred', 'Vikings', 'Wantage' and 'Anglo-Saxons' are all proper nouns. They are all specific or special names given to a place, person or group of people.
10	C	There is one adjective in the sentence. 'Alfred believed that law and order was very <b>important</b> for his people.'

### Punctuation (page 9)

1	C	A bracket is needed after 'species'. The text within the brackets offers extra information about the jungle.
2	B	A capital letter is needed for the 'v' in 'Vikings'. It is part of a proper noun, which is a name given to a specific group of people.
3	N	No mistake
4	D	A possessive apostrophe is needed to show that the cake stall belongs to Becky – Becky's cake stall.
5	B	A comma is needed after 'Khalid' to make it clear who has decided to go to the shops.
6	C	The contraction apostrophe in 'wev'e' is incorrect for. It should be 'we've', which is short for 'we have'.
7	D	A comma is needed after 'Let's drink' for the sentence to be clearer and make more sense.
8	C	A question mark is needed after 'area', instead of a comma, as Jay is asking a question.

### Spelling (page 10)

1	D	<b>cousins</b> The word 'cousins' has a /u/ sound, which is spelled with 'ou'.
2	B	<b>island</b> There is a silent letter 's' in 'island'.
3	A	<b>immediately</b> There is a double letter 'mm' in 'immediately'.
4	C	<b>rain</b> This is a homophone. The correct spelling is 'rain'. The word 'reign' means 'the rule of a leader/monarch'.
5	N	No mistake
6	A	<b>palm</b> If the letter 'l' is towards the end of the word, before the letter 'm' but after the letter 'a', then it's usually silent. The 'a' has an /r/ vowel sound.
7	B	<b>field</b> We usually use 'i' before 'e' unless the 'i' comes after the letter 'c'.
8	D	<b>incredible</b> We use the 'ible' suffix if we can't hear a clear root word.

### Grammar (page 11)

1	B	<b>their</b> This is a determiner word that shows something that belongs to, or is connected to, a group of people, animals or things – 'their local football team'.
2	D	<b>an</b> We add the article 'an' before words starting with a vowel – 'an anthill'.
3	D	<b>coldest</b> This is a superlative adjective. We usually add just '-est' to adjectives ending in two consonants: cold – coldest.
4	C	<b>had fallen</b> The verb 'fallen' is a past participle of the verb 'fall'. We add 'had' before it. We use it to explain a past action that may affect a present situation.
5	E	<b>who</b> This is a relative clause. It gives extra information about a noun (Queen Flo) before it.
6	A	<b>his</b> This is a singular possessive pronoun. It helps show what Amir owns – his new trainers.
7	B	<b>must be</b> We use the modal verb 'must be' to highlight something that 'must' happen before an action.
8	C	<b>but</b> We can use 'but' as a linking conjunction word to contrast/compare the first part of the sentence with the second part of the sentence.

Verbal Reasoning (page 12)

1	A, C	<b>Asia, Europe</b> The three words 'Norway', 'China' and 'Peru' are names of countries. The other two words are names of continents.
2	B, D	<b>whisper, mumble</b> The three words 'bellow', 'shriek' and 'yell' are verbs that describe loud shouting. The other two words are verbs that describe quieter talking.
3	B, E	<b>bend, stretch</b> The three words 'leg', 'arm' and 'ankle' are different parts of the body. The other two words are types of body actions.
4	C, E	<b>necklace, bracelet</b> The three words 'diamond', 'emerald' and 'sapphire' are precious gemstones. The other two words describe two types of jewellery that may contain precious gemstones.
5	A, D	<b>above, atop</b> The three words 'below', 'beneath' and 'under' are prepositions that describe lower positions. The other two words are prepositions that describe higher positions.

(page 13)

1	D	The hidden word is <b>raft</b> . Mia wrote the letter <b>a</b> fter lunch.
2	A	The hidden word is <b>heap</b> . <b>The apes</b> swung through the trees.
3	D	The hidden word is <b>oven</b> . I lost my <b>glove</b> near here.
4	E	The hidden word is <b>wasp</b> . The thick rose bush <b>was</b> prickly.

(page 14)

1	A	<b>A = 3:</b> $B(6) + D(9) - E(12) = 3$ ; $6 + 9 - 12 = 3$
2	D	<b>D = 7:</b> $E(14) - C(5) - A(2) = 7$ ; $14 - 5 - 2 = 7$
3	D	<b>D = 9:</b> $B(3) \times C(6) \div A(2) = 9$ ; $3 \times 6 \div 2 = 9$
4	D	<b>D = 18:</b> $D(18) + A(4) - C(10) + B(6) = 18$ ; $18 + 4 - 10 + 6 = 18$
5	C	<b>C = 4:</b> $C(4) \times B(3) \div D(6) + A(2) = 4$ ; $12 \div 6 + 2 = 4$

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1	C	<b>o</b> Two new words are 'flat' and 'boat'. Move 'o' in the first word. Add it after the letter 'b' in the second word.
2	D	<b>c</b> Two new words are 'path' and 'clog'. Move 'c' from the first word. Add it to the beginning of the second word.
3	E	<b>n</b> Two new words are 'rise' and 'even'. Move 'n' from the first word. Add it to the end of the second word.
4	B	<b>w</b> Two new words are 'seat' and 'wheat'. Move 'w' from the first word. Add it to the beginning of the second word.
5	B	<b>h</b> Two new words are 'tick' and 'thank'. Move 'h' from the first word. Add it after the letter 't' in the second word.

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1	A, Y	<b>rude, polite</b> 'Rude' describes someone who is bad-mannered. 'Polite' describes someone who is well-mannered.
2	C, Z	<b>full, empty</b> 'Full' describes something that does not have any more space. 'Empty' describes something that does not have anything in it.
3	B, X	<b>trickle, gush</b> 'Trickle' means 'a small, slow flow of liquid'. 'Gush' means 'a large, fast flow of liquid'.
4	A, Y	<b>vast, tiny</b> 'Vast' describes something that is very large. 'Tiny' describes something that is very small.

(page 17)

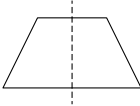
<b>Code letter answers</b>	Two of the words start with T and two of the codes start with 2, so T must be 2. Two of the words end in E and two of the codes end in 6, so E must be 6. A word that starts with T and ends with E is TAME, therefore 2346 must be TAME. From TAME, we then also know that A = 3 and M = 4. From this we can work out that TEAR is 2635, so R = 5. We then know that 1356 must be BARE and we can shuffle the digits of this code around to also work out that REAM is 5634.  TAME = 2346    REAM = 5634    TEAR = 2635    BARE = 1356	
1	D	REAM = 5634
2	A	4326 = MATE
3	B	MEET = 4662

Reading Question (page 17)

1	C	The sentence 'Aaron is the youngest child.' is true. He is seven years old. Gina and Giles are eight years old. Rosie is three years older than Aaron. This makes her ten years old. Thea is older than Gina and younger than Rosie. The other sentences are not true.
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# Practice Paper 1B: Mathematics and Non-verbal Reasoning

Mathematics (pages 19–24)

1	D	$8^2 + 5^2$ $89 = 64 + 25 = 8^2 + 5^2$
2	A	<b>77 minutes</b> 09:46 to 10:00 is 14 minutes. 10:00 to 11:00 is 60 minutes. 11:00 to 11:03 is 3 minutes. $14 + 60 + 3 = 77$ minutes.
3	D	<b>1996</b> M – 1000 CM – 900 XC – 90 VI – 6
4	B	<b>3cm</b> The two sides that measure 6cm are represented by 12 in the formula. $12 + 2a = 18$ . The two sides that are represented by $a$ must total $2a$ and can be worked out by subtracting 12 from 18 and then dividing the answer by 2: $18\text{cm} - 12\text{cm} = 6\text{cm}$ . The total length of those sides is 6cm, so the length of one side must be half of 6, which is 3cm.
5	E	In size order, smallest first: <b>-0.1 -0.02 0.05 0.14 0.2</b>
6	A	<b>125cm<sup>3</sup></b> $5 \times 5 \times 5 = 125\text{cm}^3$
7	E	<b>42</b> Total number of available seats: $57 \times 5 = 285$ Total number of people currently going on the trip: $227 + 16 = 243$ Number of seats still available: $285 - 243 = 42$
8	A	 A <b>trapezium</b> is made.
9	B	<b>-4</b> Each term is 5 more than the previous term. -9    -4    1    6    11    16
10	D	<b>33</b> 5 blue sweets means every sweet symbol represents 2 sweets. There are 15 whole sweet symbols and 3 half sweet symbols, so 16 and a half sweet symbols altogether. $2 \times 15 = 30$ $3 \times \frac{1}{2} = 3$ $30 + 3 = 33$ sweets in total
11	A	<b>17</b> Thirds in 5 = $3 \times 5 = 15$ Thirds in $\frac{2}{3} = 2$ $15 + 2 = 17$ thirds
12	B	<b>379,263</b> 429,263                      419,263                      409,263                      399,263                      389,263                      379,263
13	B	<b>4</b> $(3 \times 2) + (1 \times 0) = 6 + 0 = 6$ $10 - 4 = 6$ So, the missing number is 4.
14	C	<b>31 m<sup>2</sup></b> First garden: $6 \times 7 = 42\text{m}^2$ and $3 \times 3 = 9\text{m}^2$ $42\text{m}^2 + 9\text{m}^2 = 51\text{m}^2$ Second garden: $6 \times 5 = 30\text{m}^2$ and $13 \times 4 = 52\text{m}^2$ $30\text{m}^2 + 52\text{m}^2 = 82\text{m}^2$ Difference: $82\text{m}^2 - 51\text{m}^2 = 31\text{m}^2$
15	E	<b>(4, 5)</b>
16	C	<b>15</b> $127 \div 9 = 14$ remainder 1 The decorator needs 15 rolls of wallpaper because 14 isn't quite sufficient.
17	D	<b><math>\frac{77}{100}</math></b> $\frac{3}{10} = 0.3$ So, $0.47 + 0.3 = 0.77 = \frac{77}{100}$
18	E	<b>12</b> is a multiple of 3 ( $3 \times 4 = 12$ ) but it is not a factor of 90 and therefore does not belong in the shaded area.
19	A	<b>3</b> $3 \times 7 = 21$ $3 \times 100 = 300$ $3 \times 28 = 84$ $3 \times 22 = 66$
20	B	<b>22°</b> The total of the three angles is $180^\circ$ because, together, they form a straight line. So, $180^\circ - 90^\circ - 68^\circ = 22^\circ$

21	A	<b>10:51</b> Given that it takes Daisy 12 minutes to walk from George Square bus stop to the restaurant, the latest bus she could catch is the one that arrives at George Square at 11:35. This bus leaves Victoria Park at 10:59, so to get there in time Daisy must leave home at least 8 minutes before that, which is 10:51.
22	A	<b>20kg</b> From the first two statements, it is known that Coco weighs 20kg more than Archie. Using that information, and the third statement, it is then known that Archie weighs 20kg in order for Coco to weigh 20kg more. $Coco + Archie = 20kg + 40kg = 60kg$
23	C	<b>12</b> 12 houses had 0 pets: $12 \times 0 = 0$ 5 houses had 1 pet: $5 \times 1 = 5$ 2 houses had 2 pets: $2 \times 2 = 4$ 1 house had 3 pets: $1 \times 3 = 3$ $0 + 5 + 4 + 3 = 12$ pets

## Practice Paper 1B: Mathematics and Non-verbal Reasoning (pages 25–30)

### Non-verbal Reasoning: Odd One Out (pages 25–27)

1	C	The shapes that belong have one long line and one short line set at right angles to each other. The odd one out has lines that are not set at right angles.
2	D	The shapes that belong have a larger and a smaller version of the same shape overlapping each other. The odd one out has two identical, same size shapes overlapping each other.
3	B	The shapes that belong have one shape or vertical line between each pair of lines. The odd one out has two vertical lines between one pair of lines and an empty pair of lines.
4	E	The shapes that belong have five parallel lines within the semicircle. The odd one out has four parallel lines within the semicircle.
5	A	The shapes that belong are made up of four tessellating shapes. The odd one out has only three tessellating shapes.
6	D	The shapes that belong are made up of two similar shapes; one larger surrounding a smaller one, and rotated $180^\circ$ compared to each other. The odd one out has a different larger shape surrounding the smaller one.
7	B	The shapes that belong have one right angle. The odd one out has two right angles.
8	E	The shapes that belong have three triangles on one line and one triangle on the other line. The odd one out has two triangles on each line.
9	C	The shapes that belong have an arrow pointing out from an acute angle. The odd one out has an arrow pointing out from an obtuse angle.
10	D	The shapes that belong have line shading that runs parallel to the parallel sides of the shape. The odd one out has line shading that runs perpendicular to the parallel sides of the shape.
11	A	The shapes that belong have a line splitting them into two identical halves. The odd one out has a line that splits it into two non-identical parts.
12	D	The shapes that belong have a circle, a square and a triangle connected by two straight lines. The odd one out has two squares and a circle connected by two straight lines.
13	B	The shapes that belong are rotations of each other. The odd one out is a reflection of the other shapes.

### Non-verbal Reasoning: Codes (pages 28–30)

1	A	<b>TY</b> The first letter indicates the overall shape – T means the pentagon. The second letter indicates the side of the shape on which the vertical line appears – Y means on the left.
2	D	<b>YO</b> The first letter indicates the position of the two straight lines – Y means lines below and to the right of the arrow. The second letter indicates the arrow position and direction – O means pointing diagonally up to the right.
3	C	<b>RV</b> The first letter indicates the number of lines coming out of the top of the rectangle – R means two lines. The second letter indicates the inside of the rectangle – V means a blank white space.
4	B	<b>NU</b> The first letter indicates the overall shape – N means a rectangle. The second letter indicates the line style – U means a dotted line.
5	E	<b>OJ</b> The first letter indicates the number of thin vertical lines within the rectangle – O means three thin vertical lines. The second letter indicates the number of thick vertical lines within the rectangle – J means four thick vertical lines.
6	D	<b>GL</b> The first letter indicates the number of circles – G means two circles. The second letter indicates the shape of the line – L means two small lines pointing down and out at either end of a longer, horizontal line.
7	A	<b>TZ</b> The first letter indicates the size of the diamond shape – T means small. The second letter indicates the internal line pattern – Z means a vertical line and a horizontal line.
8	B	<b>IL</b> The first letter indicates the number of lines used to make the zigzag – I means five lines. The second letter indicates the number of dots – L means two dots.
9	C	<b>KR</b> The first letter indicates the line shape that makes the bottom edge – K means a pointed shape. The second letter indicates the line shape that makes the top edge – R means a pointed shape.

10	E	<b>ZH</b> The first letter indicates the line arrangement inside the shape – Z means a diagonal line on the left and a vertical line on the right. The second letter indicates the outline shape – H means a square with curved corners.
11	A	<b>LU</b> The first letter indicates the position of the horizontal line – L means in the middle. The second letter indicates which line or lines are thicker – U means the sloping side lines.
12	D	<b>GM</b> The first letter indicates the circle types – G means one black inner circle and one complete inner circle. The second letter indicates the number of lines – M means one line.
13	C	<b>PFY</b> The first letter indicates the type of shading – P means solid grey shading. The second letter indicates the way the square has been divided into quarters – F means a vertical and a horizontal line. The third letter indicates how many quarters are shaded – Y means three quarters are shaded.

## Practice Paper 2A: English and Verbal Reasoning

### English: The Snow Queen (pages 32, 41 and 42)

1	D	Lei followed a trail of her Grandma's pink rose petals.
2	A	The weather became worse because bitterly cold clouds blanketed the winter sun. The clouds cut out any warmth from the sun.
3	B	Lei knew she was at the Snow Queen's palace when she saw the initials 'SQ' on the gate.
4	E	The delicate icicles looked like sparkling chandeliers.
5	C	The pink rose petals helped warm up Jay's frozen body.
6	A	Lei felt a deep chill because she knew that Jay was in great danger inside the ice palace.
7	B	The closest meaning to 'irritated' is 'annoyed'.
8	D	The word 'treacherous' can also mean 'dangerous'. The icy floor was dangerous – someone could slip on the ice and badly hurt themselves.
9	C	There is one verb in the sentence. ...a strange warmth <b>going</b> into her body.
10	A	The quotation is best described as a simile. It describes something that looks like another thing.

### Punctuation (page 43)

1	C	A capital letter is needed for 'h' in 'Hassan'. His name is a proper noun.
2	B	A full stop is needed after the word 'mountains' to show the end of a sentence.
3	C	A dash is needed after 'skills' to show informal extra information given by the writer about the character '– he practised every day.'
4	A	A comma is needed after 'morning' to separate the fronted adverbial from the rest of the phrase.
5	C	Speech marks are needed at the end of the dialogue sentence: "Be careful," called out his mother.
6	C	The question mark is incorrect. It should be a full stop or exclamation mark.
7	B	A contraction apostrophe is needed to form the correct contraction: Don't
8	N	No mistake
9	B	Two commas are needed to separate the list of adjectives: a huge, hungry, hairy Yeti.

### Spelling (page 44)

1	B	<b>steel</b> This is the correct spelling of the word for a type of metal. Its homophone is 'steal', which means 'to take something without asking'.
2	D	<b>lamb</b> The 'b' in 'lamb' is a silent letter.
3	C	<b>twelfth</b> The 'f' in 'twelfth' is a silent letter.
4	N	No mistake
5	A	<b>collect</b> There is a double letter of 'l' in 'collect'.
6	B	<b>believe</b> We usually put 'i' before 'e' unless the 'i' comes after the letter 'c'.
7	A	<b>average</b> Most words that end with a /j/ sound end with 'age' and not 'ige'.
8	C	<b>skipping</b> For verbs that end with a vowel and then a consonant, double the consonant before adding the suffix '-ing': skip – skipping.

### Grammar (page 45)

1	A	<b>were</b> It is the plural past tense of the verb 'to be': 'we were finally...'
2	C	<b>discovery</b> This is a noun that names an action of discovering something.
3	D	<b>best</b> This is a comparative adjective: 'the best time to...'
4	B	<b>read</b> This is an irregular past tense verb: 'I read the directions...'
5	D	<b>whose</b> This is a relative clause. It gives extra information about a noun (the captain) before it.
6	A	<b>Soon</b> This is a time adverb that highlights that an action happened quite quickly: 'Soon, a strong wind...'
7	E	<b>across</b> This is a position preposition that shows that the ship is moving across the sea.
8	A	<b>might</b> This is a modal verb that shows a possibility of getting to the island: 'we might just get to the island...'

**Verbal Reasoning (page 46)**

1	A	<b>OWE</b> It snOWEd heavily all through the night.
2	D	<b>ATE</b> The spaceship landed in the wide crATER.
3	B	<b>KEY</b> We raised money for a donKEY rescue centre.
4	C	<b>RAN</b> Finlay found a stRANge object in the old attic.
5	E	<b>ASK</b> Ana placed the fresh fruit into her shopping bASKet.

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1	C	<b>coat</b> (cover paint): to provide a layer over something; (fur jacket ): an animal covering of hair and item of outer clothing.
2	A	<b>hard</b> (solid firm): something that feels rigid and inflexible; (difficult harsh): something that is tough or demanding to do.
3	D	<b>fair</b> (fete carnival) a community outdoor event or celebration; (just honest): to make a balanced judgement.
4	B	<b>post</b> (stake pole): a vertical stick supporting or showing something; (mail blog): items delivered to the door or a personal discussion placed on the internet.
5	E	<b>storm</b> (gale hurricane): a bad or heavy weather condition; (attack ambush): to suddenly attack a place.

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1	B, Z	<b>care, less</b> The two words together make the word 'careless'. The other words joined together do not make new words.
2	C, Y	<b>drag, on</b> The two words together make the word 'dragon'. The other words joined together do not make new words.
3	C, X	<b>my, self</b> The two words together make the word 'myself'. The other words joined together do not make new words.
4	A, Y	<b>run, way</b> The two words together make the word 'runway'. The other words joined together do not make new words.

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1	D	<b>FJ</b> The first letters in each pair are in alphabetical order: <b>AH BH CI DI EJ FJ</b> . The second letters in each pair follow a double letter pattern in alphabetical order (H-H, I-I, J-J): <b>AH BH CI DI EJ FJ</b> .
2	A	<b>UX</b> The counting pattern for the first and second letters in each pair is (+2). First letters: <b>MP OR QT SV UX</b> (M (+2), O (+2), Q (+2), S(+2), U) Second letters: <b>MP OR QT SV UX</b> (P (+2), R (+2), T (+2), V (+2), X)
3	B	<b>ZC</b> The first letters in each pair are in alphabetical order: <b>UR VO WL XI YF ZC</b> . The second letters in each pair follow the counting pattern (-3): <b>UR VO WL XI YF ZC</b> (R (-3), O (-3), L (-3), I (-3), F (-3), C.)
4	D	<b>RO</b> The first letters in each pair follow the counting pattern (+3): <b>CT FS IR LQ OP RO</b> (C (+3), F (+3), I (+3), L (+3), O (=3), R.) The second letters in each pair are in alphabetical order going backwards: <b>CT FS IR LQ OP RO</b>
5	E	<b>EF</b> The counting pattern for the first and second letters in each pair is (+2), (-1). First letters: <b>BC DE CD EF DE FG EF</b> : B(+2), D (-1), C (+2), E (-1), D (+2), F (-1), E Second letters: <b>BC DE CD EF DE FG EF</b> : C(+2), E (-1), D (+2), F (-1), E (+2), G (-1), F

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1	C	<b>emu</b> – The second and third letters from the first word followed by the second letter from the second word. (son [one] pet) (hem [emu] tug)
2	B	<b>meat</b> – The third letter from the second word followed by the second, third and fourth letters from the first word. (back [sack] lost) (heat [meat] limp)
3	D	<b>wind</b> – The first and second letters from the second word followed by the third and fourth letters from the first word. (drop [shop] shun) (band [wind] with)
4	A	<b>part</b> – The fourth and third letters form the first word followed by the fifth and first letters from the second word. (close [song] grain) (shape [part] tower)
5	E	<b>lack</b> – The fourth and second letters in the first word followed by the fourth and fifth letters in the second word. (lamps [pant] joint) (early [lack] truck)

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1	A	<b>16</b> Add 2 to each number: 8 (+2), 10 (+2), 12 (+2), 14 (+2), 16
2	E	<b>18</b> Follow sequence pattern (-3), (+10) : 7 (-3), 4 (+10), 14 (-3), 11 (+10), 21 (-3), 18 or add 7 to alternate numbers 7 (+7), 14 (+7), 21 and 4 (+7), 11 (+7), 18. Giving the sequence 7 <b>4</b> 14 <b>11</b> 21 <b>18</b>
3	E	<b>47</b> Follow sequence pattern (+3), (+4), (+5), (+6), (+7): 22 (+3), 25 (+4), 29 (+5), 34 (+6), 40 (+7), 47 Or take 2 from alternate numbers 70 (-), 68 (-2), 66 and 63 (-2), 61 (-2), 59. Giving the sequence 70 <b>63</b> 68 <b>61</b> 66 <b>59</b>
4	C	<b>59</b> Follow sequence pattern (-7), (+5) : 70 (-7), 63 (+5), 68 (-7), 61 (+5), 66 (-7), 59

**Reading Question (page 51)**

1	A	Alex baked the fewest cakes. He only baked a chocolate cake. Femi, Sam and Meena baked three cakes each: carrot cake, flapjacks and lemon drizzle cake. Dylan baked three cakes: carrot cake, lemon drizzle cake and chocolate cake.
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# Practice Paper 2B: Mathematics and Non-verbal Reasoning

Mathematics (pages 53–58)

1	C	$8800 \div 1000 = 8.8$
2	E	$\frac{2}{3}$ of 90 $\frac{3}{4}$ of 60 = 45 50% of 110 = 55 10% of 400 = 40 25% of 200 = 50 $\frac{2}{3}$ of 90 = 60 60 is the largest answer.
3	B	<b>Net 2</b> would have sides overlapping and not make a whole cube.
4	A	<b>27kg</b> Work out how many grams there are in 60 pounds: $60 \times 450 = 27,000\text{g}$ Convert grams to kilograms: $27,000 \div 1000 = 27\text{kg}$
5	D	<b>My walk to school is 80,000cm.</b> Convert measurements: Banana (kg to g) $0.01 \times 1000 = 10\text{g}$ , which is not heavy enough. Water bottle – no need to convert – 500l is a huge amount of water! Cat (g to kg) $70,000 \div 1000 = 70\text{kg}$ , which is far too heavy. Walk to school (cm to m) $80,000 \div 100 = 800\text{m}$ , which sounds a sensible walking distance. Brother (km to m) $0.004 \times 1000 = 4\text{m}$ , which is far too tall.
6	D	<b>Four days had fewer than 100 customers.</b> Only three days had fewer than 100 customers. A fourth day had exactly 100 customers, so it doesn't count as having fewer than 100.
7	C	<b>MDCCXCIII</b> MDCCLXXVI is 1776 and MDCCCXII is 1812. MDCCXCIII is 1793 and is in between the first two years. The other years are MDCCCLI (1851), MDCCCXV (1815), MDCCXLIX (1749) and MDCCLXIX (1769).
8	D	<b>9200</b> $0.92 \times 1000 = 920$ , not 9200
9	B	<b>10</b> One-quarter of the boys had pasta. $\frac{1}{4}$ of 16 = 4 Three-eighths of the girls had pasta. $\frac{3}{8}$ of 16 = 6 $4 + 6 = 10$ children had pasta.
10	E	$1\frac{4}{7}$ $5 + 6 = 11$ , so $\frac{5}{7} + \frac{6}{7} = \frac{11}{7}$ To write $\frac{11}{7}$ as a mixed number, $11 \div 7 = 4$ , so $1\frac{4}{7}$ .
11	A	<b>67°</b> The angles in a triangle add up to 180°. The short perpendicular lines on two sides of the triangle show that it is an isosceles triangle with two equal side lengths and two equal angles, which are the two unknown angles. Take away the known angle from 180°: $180^\circ - 46^\circ = 134^\circ$ Divide what's left between the two equal angles: $134^\circ \div 2 = 67^\circ$
12	E	$12 \times 7 = 84 = \mathbf{93 - 9}$
13	D	<b>20m</b> The length and width of the pond are each 2 metres shorter than the marked path dimensions because there is 1 metre of path around every edge. Therefore, the length of the pond is 6m and the width is 4m. $6\text{m} + 4\text{m} + 6\text{m} + 4\text{m} = 20\text{m}$ perimeter
14	C	<b>16.4km</b> Write all measurements in km: 14.6km $4160\text{m} \div 1000 = 4.16\text{km}$ 16.4km $14,600\text{m} \div 1000 = 14.6\text{km}$ 1.64km So, 16.4km was his longest bike ride.
15	B	<b>£6.50</b> Read up from 3 hours of parking to the graph line and then across to the cost, which is halfway between £6.00 (marked) and £7.00 (unmarked), so the cost is £6.50.
16	C	<b>Nearest 1000</b> 264,533 rounded to the nearest 1000 is 265,000 because the hundreds digit is a 5, so Manjit should have rounded up, not down.
17	E	<b>(9, -4)</b> Choose one corner on the original shape and count how far it has to move horizontally and vertically to reach the same corner on the translated shape. Translate the horizontal coordinate first, vertical coordinate second. (9, -4)

18	B	-6 The numerical gap between each pair of small vertical lines is 5. The question mark should be replaced with -6.									
19	D	£10 When £1 is worth 5.5 leu, £30 is worth $30 \times 5.5 = 165$ leu. Andrei spent 110 of the leu, so $165 - 110 = 55$ leu left. Converting back to pounds at the exchange rate $\text{£}1 = 5.5$ leu gives $55 \div 5.5 = \text{£}10$ .									
20	A	46° The two angles, 134° and $t$ , form a straight line. The angle along a straight line is 180°. So, angle $t = 180^\circ - 134^\circ = 46^\circ$ .									
21	C	8 Calculate the third number in a row or column when the other two are already known. <table border="1" style="margin: 10px auto;"> <tr><td>3</td><td>4</td><td>6</td></tr> <tr><td>2</td><td>5</td><td>6</td></tr> <tr><td>8</td><td>4</td><td>1</td></tr> </table> 8 is the largest number in this square.	3	4	6	2	5	6	8	4	1
3	4	6									
2	5	6									
8	4	1									
22	A	Three apples for the price of two is the cheapest way of buying six apples – it costs £2.80.									

## Practice Paper 2B: Mathematics and Non-verbal Reasoning (pages 59–64)

### Non-verbal Reasoning: Matrices (pages 59–61)

1	B	In each column, the shapes are rotated 180°.
2	B	In each row, moving from left to right, the squares are rotated 90° anticlockwise and the small shape shading changes from white to black.
3	E	A column contains three matching shapes with each column containing a different shape. Within each column, one shape is shaded white, one shape is shaded black, and one shape has vertical striped shading.
4	A	In each column, the squares are rotated 180° and, moving from top to bottom, a small inner shape is added.
5	E	In each row, the dashed smaller shape is moved to take a section out of the edge of the larger shape.
6	D	Each diagonal of squares moving from top left to bottom right contains matching shapes.
7	C	The left-hand and right-hand columns are reflected in a vertical line of symmetry and combined in the middle column.
8	D	In each column, the top shape is reflected in a horizontal line of symmetry and two short lines are replaced with one short line.
9	B	In each row, the shape is reflected in a vertical line of symmetry and the shading swapped between the two elements that make up the complete shape.
10	C	Each row contains three matching shapes: one small, one medium and one large.
11	A	In each column, the shapes in the top square are resized and rearranged to create the pattern in the bottom square. The small bottom-right shape goes into the middle, the small middle shape surrounds it and then the small top-left shape surrounds both.
12	D	The left and right columns are matching. Each shape in the first row has one line perpendicular to the main arrow line, in the second row it's two lines and in the third row it's three lines.
13	B	Each row and column contain the same three shapes. The shapes in a particular row all 'point' in the same direction.

### Non-verbal Reasoning: Like Figures (pages 62–64)

1	E	Each shape contains a small black circle that doesn't touch the sides of the outer shape.
2	A	Each shape is divided in half with one half white and the other half shaded in some way.
3	C	Each overall shape is made up of two identical, overlapping shapes that are in the same orientation.
4	A	Each shape has two right angles, each marked with a black square.
5	E	Each shape is made up of lines that cross in exactly three places.
6	D	Each shape is a hexagon.
7	B	Each shape is made up of six short lines on the dotted grid with two dots that are not connected to any lines.
8	B	Each shape is made up of a complete 2D shape. Inside of it is half of a smaller, similar shape and outside of it is the other half of a larger, similar shape.
9	C	Each shape has one vertical line of symmetry.
10	D	Each shape has twice the number of black circles inside the square as there are small lines connected to the corners of the outside of the square.
11	B	Each shape has a straight line of three crosses marked by short lines at each end.
12	D	Each shape is shaded so that it is half shaded and half white.
13	E	Inside each outer shape is a small black circle at the top, and underneath is a small version of the outer shape.