



**BROAD HORIZON**  
— T U I T I O N —

# **11+ Tuition**

**Year 4**

**Week 46**

**ANSWERS**

**Coordinates**  
pp.46–47

1	(8,4) and (3,7)
2	(4,3) and (-3,-1)
3	E
4	(2,3)
5	(8,5)
6	(8,5)
7	(1,-1)
8	(6,8)

**Algebra**  
pp.48–49

1	£1.50
2	7 years old
3	D
4	6
5	£12.00
6	30°
7	24 acres
8	450g
9	24
10	2kg
11	6cm
12	16

**Mixed test 1**  
pp.50–51

1	3 hours 20 minutes
2	140g
3	£45.00
4	148cm
5	85 pages
6	80p
7	380 tins
8	24 books
9	£17.25
10	£16.10
11	£64.40
12	4 and 81, or 36 and 49

**Mixed test 2**  
pp.52–53

1	£84.00
2	8 years 10 months
3	£5.40
4	60 minutes
5	B
6	60km
7	C
8	36 meals
9	17.5m <sup>2</sup>
10	800 metres
11	30 weeks

**Mixed test 3**  
pp.54–55

1	84 miles
2	£530.00
3	17:20
4	$\frac{5}{12}$
5	80 king prawns
6	12 years old
7	85°
8	12 questions
9	432 litres
10	31.4cm
11	295.9cm
12	84 houses

**Mixed test 4**  
pp.56–57

1	A
2	16.1 degrees
3	384,000 people
4	72cm <sup>3</sup>
5	11 years old
6	$\frac{3}{8}$
7	£90.00
8	14:15
9	43 years old
10	C
11	43 boys
12	B

**Mixed test 5**  
pp.58–59

1	15 passengers
2	F
3	36 sausage rolls
4	8 hours 15 minutes
5	8.1kg
6	£8.20
7	35cm
8	C
9	250g
10	3:2
11	3 hours 38 minutes
12	85p

**Mixed test 6**  
pp.60–61

1	10 spaces
2	14 crew members
3	D
4	16:52
5	42 questions
6	169cm <sup>2</sup>
7	48mph
8	50 adults
9	66 minutes
10	64mph

# Extended answers for Maths (Ages 9–10)

## Algebra pp.48–49

10	The tiger cub weighs $x$ kg, the tiger weighs $60x$ . $61x = 122$ kg. $x = 2$ kg. The tiger cub weighs 2kg.
11	$2x + x + 2x + x = 36$ cm $6x = 36$ cm $x = 6$ cm
12	$5a - 3a = 13 + 19$ $2a = 32$ $a = 16$

## Mixed test 1 pp.50–51

1	4 hours 10 minutes = 250 minutes 80% of 250 = 200 minutes 200 minutes = 3 hours 20 minutes
2	It is more efficient to estimate the weight of one cat and then build the other weights around the first cat. For example, imagine Rupert weighs 3000g; Raffles would weigh $(3000\text{g} - 80\text{g})$ 2920g. Ringo would weigh $(2920\text{g} + 140\text{g})$ 3060g. Ridley would weigh $(3000\text{g} - 60\text{g})$ 2940g. The range is the difference between 3060g and 2920g, which is 140g.
3	$4500 \div 100 = 45$ . The answer is £45.00.
4	If Rahul is 156cm tall, Saif is $(156\text{cm} - 12\text{cm})$ 144cm tall. Zain is $(144\text{cm} + 4\text{cm})$ 148cm.
5	Sophie has read $(216 \div 2)$ 108 pages before dinner. $108 + 23 = 131$ . Sophie has $(216 - 131)$ 85 pages left to read.
6	Lux spends £2.40. Kailash spends $(£2.40 \div 2)$ £1.20. Maheeshah spends $(£1.20 - 25\%)$ , which is 90p. Lathi spends 90p – 10p, which is 80p.
7	$424 - 42 = 382$ . 382 tins rounded to the nearest 10 is 380 tins.
8	$528 \div 22 = 24$ . Children may find it easier to calculate $528 \div 11$ (48) then $48 \div 2$ , which is 24.
9	$£4.50 + £10.50$ (£15.00) + 15% service charge (£2.25) = £17.25
10	$(£3.00 \times 2)$ £6.00 + £8.00 (£14.00) +15% service charge (£2.10) = £16.10
11	$(£4.00 \times 4)$ £16.00 + £8.00 + £13.00 + $(£9.50 \times 2)$ £19.00 (£56.00) + 15% service charge (£8.40) = £64.40
12	There are two possible answers. $2^2$ (4) + $9^2$ (81) = 85 $6^2$ (36) + $7^2$ (49) = 85

## Extended answers for Maths (Ages 9–10)

### Mixed test 2 pp.52–53

1	20% of £120.00 = £24.00. £120.00 – £24.00 = £96.00. $\frac{1}{8}$ of £96.00 = £12.00. £120.00 – (£24.00 + £12.00) = £84.00
2	12 years and 4 months = 148 months. 3 years and 6 months = 42 months. 148 months – 42 months = 106 months. $106 \div 12 = 8$ remainder 10. Lena is 8 years 10 months old.
3	£12.60 – (the difference) £1.80 = £10.80. $£10.80 \div 2 = £5.40$ . Add the difference back on to this amount to find the larger amount. £5.40 + £1.80 = £7.20
4	900 litres $\div$ 15 = 60 minutes
5	4.23 metres = 423cm. 3.45 metres = 345cm. 423cm – 345cm = 78 cm. The answer is B.
6	40 minutes is equivalent to $\frac{2}{3}$ of 1 hour. $90 \times \frac{2}{3} = 60$ km
7	$3363 + 812 + 354 + 272 + 71 = 4872$ . $4872 \div 812 = 6$ . The answer is C.
8	$240 \times 15\% = 36$ meals
9	Area = length $\times$ width. $7\text{m} \times 2.5\text{m} = 17.5 \text{ m}^2$
10	3.6km is equal to 3600 metres. $3600 \div 4.5 = 800$ metres
11	1 week = 7 days. $210 \div 7 = 30$ weeks

### Mixed test 3 pp.54–55

1	Distance = speed $\times$ time. $56 \times 1.5 = 84$ miles
2	$94 \text{ bedrooms} \times 2 \text{ windows} (188) + 24 = 212$ windows. $212 \times £2.50 = £530.00$
3	$15:30 + 50 \text{ minutes} + 20 \text{ minutes} + 40 \text{ minutes} = 17:20$
4	$\frac{1}{3} + \frac{1}{4}$ equals $\frac{7}{12}$ . The remaining pizza is $\frac{5}{12}$ .
5	Aiden + 9 guests = 10 people. The recipe states 32 king prawns for four people, which equals eight king prawns per person. The recipe for 10 people would be $8 \times 10 = 80$ king prawns.
6	Kieran is 17 years – 9 (8). Sienna is 21 years – 9 (12). The answer is 12 years old.
7	The interior angles add up to $540^\circ$ . $112^\circ + 114^\circ + 111^\circ + 118^\circ = 455^\circ$ . $540^\circ - 455^\circ = 85^\circ$
8	Tymon answers 15% of the questions incorrectly. $15\% \text{ of } 80 = 12$ questions
9	The number of weekly dishwasher cycles is $5 + 2 + 2$ (9). $48 \text{ litres} \times 9 = 432$ litres
10	42 millimetres is equal to 4.2cm. $27.2\text{cm} + 4.2\text{cm} = 31.4\text{cm}$

## Extended answers for Maths (Ages 9–10)

### Mixed test 3 pp.54–55

11	$49.2\text{cm} + 68.8\text{cm} + 98.6\text{cm} + 79.3\text{cm} = 295.9\text{cm}$
12	Jamie must deliver $\frac{1}{3}$ of his post between 09:00 and 11:00. $\frac{1}{3}$ of 252 = 84 houses

### Mixed test 4 pp.56–57

1	$39 \text{ minutes} + 30 \text{ minutes} + 43 \text{ minutes} + 33 \text{ minutes} + 60 \text{ minutes} = 205 \text{ minutes}$ . $205 \div 5 = 41$ minutes. The answer is A.
2	The range is the difference between the largest amount and the smallest amount. $28.3 \text{ degrees} - 12.2 \text{ degrees} = 16.1 \text{ degrees}$
3	$20\%$ of 480,000 = 96,000. $480,000 - 96,000 = 384,000$ people
4	The ends equal $(1.5\text{cm} \times 3\text{cm} = 4.5\text{cm}) \times 2$ ( $9\text{cm}^2$ ) The sides equal $(7\text{cm} \times 3\text{cm} = 21\text{cm}) \times 2$ ( $42\text{cm}^2$ ) The top and bottom equal $(7\text{cm} \times 1.5\text{cm} = 10.5\text{cm}) \times 2$ ( $21\text{cm}^2$ ) $9\text{cm}^2 + 42\text{cm}^2 + 21\text{cm}^2 = 72\text{cm}^2$
5	Use algebra: Henry = x, Charlie = x + 2, Louis = x + 5. $3x + 7 = 34$ $3x = 34 - 7$ $3x = 27$ $x = 9$ Henry is 9 years old, Louis is 14 years old, Charlie is 11 years old.
6	A day is 24 hours. $\frac{9}{24}$ is equal to $\frac{3}{8}$ .
7	The call out charge is £60.00. The hourly charge will be $\frac{3}{4}$ of £40.00 (£30.00). $£60.00 + £30.00 = £90.00$
8	The movie will finish at $(15:20 + 40 \text{ minutes})$ 16:00. $16:00 - 1 \text{ hour } 45 \text{ minutes} = 14:15$
9	The range is the difference between the largest amount and the smallest amount. The youngest age is 5 years, therefore the oldest must be 5 years plus 38 years which is 43 years old.
10	1.2 miles in 12 minutes is equal to $(1.2 \times 5)$ 6 mph.
11	$72 - 14 = 58$ . $58 \div 2 = 29$ . There will be 29 girls and $(29 + 14)$ boys. There are 43 boys.
12	The fourth coordinate will begin with a 6. The only option is (6,5). The answer is B.

# Extended answers for Maths (Ages 9–10)

## Mixed test 5 pp.58–59

1	If $\frac{3}{4}$ of the seats are unoccupied, this means that $\frac{1}{4}$ must be occupied. $\frac{1}{4}$ of 60 = 15 passengers
2	$£20.00 + £15.00 + £1.00 + 50p + 50p + 10p = £37.10$ $£39.99 - £37.10 = £2.89$ . The answer is F.
3	$24 \times 12 = 288$ . If $\frac{7}{8}$ are eaten, $\frac{1}{8}$ must remain uneaten. $\frac{1}{8}$ of 288 = 36 sausage rolls
4	08:30 to 12:30 = 4 hours. 13:15 to 17:30 = 4.25 hours. 4 hours + 4.25 hours = 8.25 hours. The answer is 8 hours 15 minutes.
5	$12.8\text{kg} - 3.4\text{kg} = 9.4\text{kg}$ . $9.4\text{kg} \div 2 = 4.7\text{kg}$ , which is the weight of the smaller parcel. Therefore, the heavier parcel must weigh $4.7\text{kg} + 3.4\text{kg}$ (8.1kg).
6	If the mean (average) is £8.40, then the total amount must be $£8.40 \times 3$ (£25.20). $£10.50 + £6.50 = £17.00$ $£25.20 - £17.00 = £8.20$
7	Count the number of 3.5cm sides in the entire shape. There are 10. $10 \times 3.5\text{cm} = 35\text{cm}$ .
8	A = 60, B = 60, C = 81, D = 69, E = 64. The calculation with the largest value is $13.5 \times 6$ (81). The answer is D.
9	$4.2\text{kg} - 1.2\text{kg} = 3.0\text{kg}$ . 3.0kg is equal to 3000g. $3000\text{g} \div 12 = 250\text{g}$
10	Crimson, ruby and scarlet are shades of red. Blue and cyan are shades of blue. The ratio of red to blue shades is 3:2.
11	$17:43 - 14:05 = 3$ hours 38 minutes
12	$£2.00 + £1.00 + 20p = £3.20$ . Therefore, Luna must have spent $£10.00 - £3.20$ (£6.80). $£6.80 \div 8 = 85p$

## Mixed Test 6 pp.60–61

1	If it takes 5 litres to mark 100 spaces, $5 \text{ litres} \div 0.5 \text{ litres}$ will mark out 10 parking spaces.
2	$266 \div 38 = 7$ . If there are two crew members for every 38 passengers, there will be $7 \times 2 = 14$ crew members.
3	$2.8^\circ\text{C} - 7^\circ\text{C} = -4.2^\circ\text{C}$ . The answer is D.
4	$15:00 + 45 \text{ minutes} = 15:45$ $15:45 + 15 \text{ minutes} = 16:00$ $16:00 + 45 \text{ minutes} = 16:45$ 1 $6:45 + 7 \text{ minutes} = 16:52$
5	70% of 60 = 42 questions
6	If a square has a perimeter of 52cm, its sides will each measure 13cm. $13\text{cm} \times 13\text{cm} = 169\text{cm}^2$

## Extended answers for Maths (Ages 9–10)

### Mixed Test 6 pp.60–61

7	<p>The train resumed its journey at 12:15 and completed the journey at 13:30. Time taken = 75 minutes Distance covered = 60 miles Speed = distance <math>\div</math> by time <math>60 \div 75 = 0.8</math> <math>0.8</math> of 60 = 48 48mph</p>
8	<p>Ratio of adults to children = 1:3. There are 50 adults to 150 children. The answer is 50 adults.</p>
9	<p>5 minutes + 21 minutes + 11 minutes + 13 minutes + 16 minutes = 66 minutes</p>
10	<p>Distance from Ely to Bath = 160 miles. Speed = distance <math>\div</math> time <math>160 \div 2.5 = 64</math>mph</p>

# Answers

## Odd one out pp.5-8

1	D
2	D
3	A
4	E
5	A
6	E
7	C
8	D
9	E
10	B
11	E
12	B
13	B
14	C
15	A
16	E
17	C
18	B
19	D
20	E
21	D
22	A

## Views pp.9-12

1	B
2	C
3	A
4	B
5	A
6	C
7	D
8	D
9	A
10	D
11	D
12	A
13	B
14	C
15	C
16	D
17	A
18	B
19	B
20	D
21	C
22	C

## Grids pp.13-17

1	B
2	B
3	D
4	A
5	E
6	D
7	C
8	C
9	E
10	A
11	A
12	B
13	C
14	E
15	B
16	C
17	C
18	D
19	D
20	E
21	A
22	E
23	A
24	B

## Rotations pp.18-21

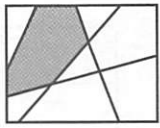
1	D
2	A
3	A
4	B
5	D
6	B
7	C
8	B
9	C
10	D
11	A
12	D
13	D
14	A
15	C
16	B
17	A
18	B
19	B
20	C
21	C
22	D

## Reflections pp.22-25

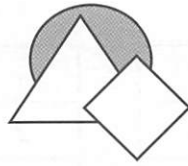
1	C
2	A
3	A
4	C
5	B
6	D
7	D
8	B
9	A
10	B
11	A
12	C
13	C
14	A
15	B
16	D
17	D
18	C
19	B
20	D
21	D
22	A

# Answers – Hidden shapes pp.26–29

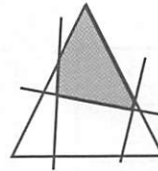
1 B



2 A



3 D



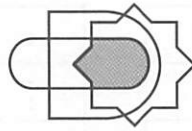
4 C



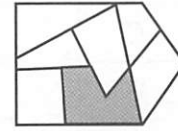
5 C



6 A



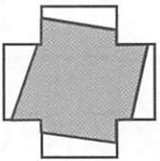
7 A



8 B



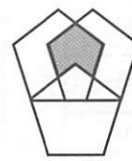
9 D



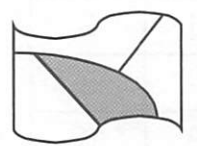
10 C



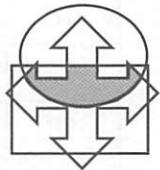
11 C



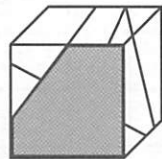
12 B



13 A



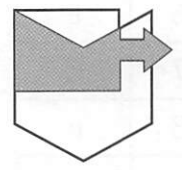
14 C



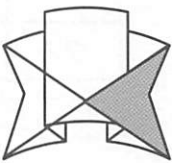
15 D



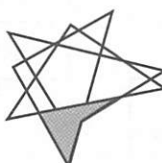
16 C



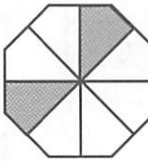
17 C



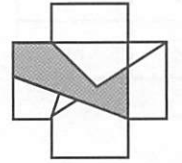
18 B



19 D



20 A



21 A



22 B



# Extended answers for Non-verbal Reasoning (Ages 9–10)

## Odd one out pp.5–8

1	D	In all the other pictures, the inner shape is different to the outer shape.
2	D	In all the other pictures, the number of black circles equals the number of white triangles.
3	A	In all the other pictures, there are two thick, double-ended arrows, two lines with black circles and two regular arrows.
4	E	In all other picture, the stripes are pointing upwards to the right.
5	A	In all other pictures, the outlines have the sequence: thick black, thinner black, thinnest black, thick grey, thinnest grey.
6	E	In all other pictures, the outlines have the following sequence: thick black, thinner black, thinnest black, dashed and dotted.
7	C	In all other pictures, the inner shapes have the sequence: diamond, square, triangle and circle
8	D	In all other pictures, the number of shaded in triangles is the same above the line as below
9	E	In picture E, the interior arrows have been rotated.
10	B	In all the other pictures, the eyes are looking to the right.
11	E	The shapes are all circles but there is a square in picture E.
12	B	In all the other pictures, the direction of the arrows is clockwise.
13	B	In all the other pictures, there are the same number of spots in each half of the circle.
14	C	In all the other pictures, the wheels and the funnels are shaded the same.
15	A	Picture A is the only one not to contain a shape with a solid outline.
16	E	In all the other pictures, the points of the stars are in the gaps of the larger shapes. In E, the stars have also moved on one extra gap of the larger shape.
17	C	In all the other pictures, the 'eyes' are not central
18	B	The legs in picture B are pointing backwards.
19	D	In all the other pictures, the black quadrilateral is in the foreground.
20	E	Picture E contains a different shape at the end of the arrow.
21	D	In all the other pictures, the shapes are reflections of each other
22	A	In all the other pictures, the triangle with the diagonal shading is in the foreground.

## Extended answers for Non-verbal Reasoning (Ages 9–10)

**Views** pp.9–12

1	B	Seven cubes in total can be seen from the top downwards, with a cube sticking out of the top, left- and right-hand side of the shape.
2	C	Five cubes can be seen from the top downwards, forming a T shape.
3	A	Seven cubes can be seen from the top downwards, forming a backwards C shape.
4	B	Five cubes can be seen from the top downwards.
5	A	12 cubes can be seen from the top downwards, forming a cross shape.
6	C	11 cubes in total can be seen from the right side, with two of those cubes sticking out of the top-left side and one cube sticking out from the top-right side of the shape.
7	D	Nine cubes can be seen from the left side.
8	D	Ten cubes can be seen from the top downwards, forming a C shape.
9	A	Ten cubes can be seen from the left side, with two rows of four cubes at the bottom and two cubes on the top.
10	D	16 cubes can be seen from the top downwards, forming a $4 \times 4$ square.
11	D	16 cubes can be seen from the top downwards, forming a $4 \times 4$ square.
12	A	Ten cubes can be seen from the right side, forming a U shape.
13	B	Ten cubes can be seen from the top downwards: eight cubes form a $2 \times 4$ shape and two cubes stick out at the front of the shape.
14	C	Six cubes can be seen from the right side.
15	C	12 cubes can be seen from the top downwards, forming a hollow square shape.
16	D	Nine cubes can be seen from the top downwards, forming a lower case 'e' shape.
17	A	Four shapes can be seen from the top downwards: two cubes and two cuboids.
18	B	Four shapes can be seen from the right side: three cubes at the bottom and a cuboid attached to the middle cube.
19	B	Seven shapes can be seen from the top downwards: five cubes and two cuboids, forming a chair shape.
20	D	Eight shapes can be seen from the left side; four cubes and four cuboids.
21	C	Eight shapes can be seen from the top downwards: two cuboids at the top, two cuboids at the bottom and four cubes in the middle.
22	C	Nine shapes can be seen from the right side.

# Extended answers

## for Non-verbal Reasoning (Ages 9–10)

**Grids** pp.13–17

1	B	The outer line is dashed, then solid. The shape needs to be positioned in the top left.
2	B	The stripes are reversed, so the answer needs to have horizontal stripes on the left, vertical in the middle, then horizontal again on the right.
3	D	The colours are reversed, and the shapes are rotated 45 degrees clockwise.
4	A	Each square in the grid contains the same number of different objects.
5	E	The left-hand square is rotated 90 degrees clockwise.
6	D	Each left-hand square is rotated 180 degrees clockwise.
7	C	The shading is moving downwards.
8	C	Short arrows are rotating 45 degrees clockwise each time; the long arrows are rotating 45 degrees anti-clockwise each time.
9	E	There is one less column of rain. Each column is also one drop shorter.
10	A	The whole picture is rotated 45 degrees anti-clockwise each time.
11	A	Like a jigsaw, the pieces fit together.
12	B	The shaded shape on the right is an outline of the two shapes on the left.
13	C	The grid is read in an anti-clockwise direction. The colours move up by two spaces each time.
14	E	The shapes are reflected horizontally.
15	B	There are two balloons of each pattern each time in the grid.
16	C	The patterns are reflected horizontally.
17	C	The shapes are reflected horizontally and are moved to the opposite side of the box.
18	D	One extra quadrilateral with an inner circle is added and the colours are reversed at the bottom of the shape.
19	D	The shape is reflected horizontally.
20	E	The left-hand square rotates 180 degrees clockwise.
21	A	The triangle remains the same, the middle circles are transposed and the bottom circle remains the same. Pictures A and C are similar, but the answer is not C, as the stripey circle is not on top in this picture.
22	E	Two extra lines are added each time: A has four; B has no extra lines and one of the existing lines is shorter; in C, the middle lines are in the wrong position; in D, four extra lines are added. The answer is E.
23	A	The top-left bee moves to the bottom right.
24	B	The number of long oars is reduced by one and the number of short oars is reduced by one, eliminating A, C and E. The final picture should have three long oars and two short oars. The answer is B.

# Extended answers for Non-verbal Reasoning (Ages 9–10)

## Rotations pp.18–21

1	D	Eliminate A, B and C as the circles are in the wrong position in relation to the rectangle.
2	A	Eliminate B, C and D as the compass points in the pictures are incorrectly positioned.
3	A	The sequence has to be grey, spotted, grey, spotted, white, light grey.
4	B	Eliminate A as the eyes are different, C as the ears are in the foreground and D as the nose is round.
5	D	Eliminate A as there is no missing segment, B as the shading is different and C because the picture is a reflection.
6	B	Eliminate A as the mouth is different, C as the right pincer is open and D as there is a nose in the picture.
7	C	Eliminate A as there are four triangles. B because the picture contains a circle and D because the triangles are out of position.
8	B	Eliminate C and D as they have too many bold lines and A as it only has one dashed line.
9	C	Eliminate A because of the shading, B because the triangles are out of position and D because of the point at which the triangles join with the hexagons.
10	D	Eliminate A as there aren't enough white lines, and B and C as they are reflections.
11	A	Eliminate B because of the shading, C because of the dotted lines and D because some of the chevrons are pointing in the wrong direction.
12	D	Eliminate A and C because they have an incorrect number of rungs, and B because the rungs are in the background.
13	D	Eliminate A as the central objects are out of position, B as the circles are out of position and C as the central objects are positioned at the wrong angle.
14	A	Eliminate B as the pen markings are too faint, C as the rectangles are out of position and D as the pen markings are incorrect.
15	C	Eliminate A because the base is black, B because the triangle at the top is upside down and D because the weight on left is heavier than on the right.
16	B	Eliminate A, C and D because the lines are out of position.
17	A	Eliminate B, C and D because the shapes are out of position when the shape is rotated.
18	B	Eliminate A because the chevrons aren't moving clockwise, C because the circles are white and D because the triangles are moving anti-clockwise.
19	B	Eliminate A because of the shading on top of the egg-shaped objects, C because it is a reflection and D because of incorrect shading.
20	C	Eliminate A because the inner shape is a square, B because the inner circle is white and D because the shading is incorrect.
21	C	C is the only picture where the arrows are pointing in the right direction in relation to the triangles.
22	D	Eliminate A because the circles are not correctly enclosed, B because of the incorrect number of circles and D because the outer shapes are pointing downwards.

# Extended answers

## for Non-verbal Reasoning (Ages 9–10)

### Reflections pp.22–25

1	C	Eliminate A and D as the arrow is pointing downwards, and B as the inside circle is too small.
2	A	Eliminate B and D as the lightning bolts are facing upwards, and C as the shading is not a reflection.
3	A	Eliminate B as the heart shape is pointing downwards, C as the bottom of the shape has three bumps and D as the eyes are different sizes.
4	C	Eliminate A as the black shapes are behind each other, B as none of the shapes are in the correct position and D as the box has a greater height.
5	B	Eliminate A as the bottom part of the shape sticking out is longer, C as the top part of the shape sticking out is shorter and D as the top inner oval is vertical.
6	D	Eliminate A as the slanted inner shape is the second window, B as the wheels have an extra inner circle and C as the slanted inner shape is the fourth window.
7	D	Eliminate A as the inner white oval is horizontal, B as the top inner circle is black and C as the outer shape is rotated 180 degrees.
8	B	Eliminate A as the trees are positioned away from dashed line, C as the line is dotted and D as the shape is identical to the shape in the left box.
9	A	Eliminate B as the pan head is positioned top right, C as the pan head is positioned top left and D as the egg is flipped.
10	B	Eliminate A as the three middle arches have a thick outline, C as the arches have no rectangles underneath them and D as it only has five arches.
11	A	Eliminate B as the numbers are flipped, C as the '4' is not correctly reflected vertically , and D as the '6' is not flipped horizontally.
12	C	Eliminate A as the shape is identical to the shape in the left box, B as the colours of the shapes in the top row start with dark grey and D as the door handle is vertical.
13	C	Eliminate A as the swirled doughnut is top left, B as the chocolate doughnut is bottom right and D as the sprinkled doughnut is bottom right.
14	A	Eliminate B and D as two of the bottom circles are black, and C as the inner rectangle shape has been flipped horizontally.
15	B	Eliminate A as the black arch should be further to the left, C as the black arch should be further to the right and D as the bees are in different positions.
16	D	Eliminate A as 'photo' is identical, B as black lines are at the top of the inner circle, C as the sun is in the wrong position.
17	D	Eliminate A and B as the balloon on the right is light grey, and C as the dark grey balloon is not in the front of the picture.
18	C	Eliminate A and B as the label hasn't been reflected, and D as the triangle is positioned top left.
19	B	Eliminate A as the shape is identical to the shape in the left box, C as the spoon is pointing left and D as the knives are in the wrong order and are facing the wrong way.

## Extended answers for Non-verbal Reasoning (Ages 9–10)

### Reflections pp.22–25

20	D	Eliminate A as the face with dashed and dotted hair is top right, B as one face with dotted hair is top left and C as the shape is identical to the shape in the left box.
21	D	Eliminate A and C as the crooked line overlaps the bottom of the graph, and B as the arrows point right.
22	A	Eliminate B as the shape is identical to the shape in the left box, C as the door is too far right and D as the blades are not on an angle.

### Families pp.30–35

1	E	A white lightbulb with five solid lines surrounding it and two black dashes at the base of the lightbulb.
2	D	The answer contains four shapes: a black crotchet, a white minim, a black quaver and black joined quavers. When rotated individually, they are in the same orientation as the pictures on the left.
3	A	There are three flowers, each with a single black dot in the middle and five leaves.
4	F	The rosette shape has two inner rings and an inner frilled line. The ribbon end has two points.
5	A	The hat shape consists of a top crown shape and bottom rim shape. The crown shape contains two parallel lines that are the same distance apart.
6	C	The answer is C because there are the same number of eyes as antennae.
7	B	All windows are square and are divided into four sections by two crossed lines.
8	C	The sweet shapes are circular, triangular, oval and rectangular. The sweet decorations are dotted, wavy, diamond and hatched.
9	C	There are nine planes pointing to the right.
10	B	There are five inner shapes and one shape attached to the top point of the triangle. The shapes inside and out of the triangle are identical in size and colour.
11	D	The answer is a 3D shape with a black dot at each vertex.
12	E	The trophy shape has a star point at the top, handles pointing upwards and the base is made up of two rectangles. Each shape of the trophy is a different colour.
13	E	The number of vertices is equal to the number of dots inside the shape.
14	F	The shape is rotated.
15	F	There are 10 studs in total on the building block shapes.
16	D	There are four arches of different colours with a flat base at the bottom of the picture.
17	B	The round bauble has five different lines (matching the pictures on the left) and string at top.
18	A	The shape is rotated.

# Answers

Extended answers with useful explanations are available online at [www.scholastic.co.uk/pass-your-11-plus/extras](http://www.scholastic.co.uk/pass-your-11-plus/extras) or via the QR code opposite.



## 1. *The Mona Lisa* pp.5–8

1	B
2	A
3	D
4	C
5	B
6	A
7	A
8	C
9	D
10	C

## 2. *Alfred Nobel* pp.9–12

1	C
2	B
3	A
4	A
5	B
6	D
7	D
8	C
9	B
10	C

## 3. *Jane Austen* pp.13–16

1	D
2	C
3	B
4	D
5	A
6	B
7	D
8	A
9	B
10	C

## 4. *San Francisco* pp.17–20

1	A
2	D
3	C
4	B
5	D
6	C
7	A
8	B
9	D
10	C

## 5. *London* pp.21–24

1	D
2	B
3	C
4	A
5	D
6	B
7	A
8	C
9	D
10	D

## 6. *Obituary: Amelia Earhart* pp.25–28

1	A
2	D
3	C
4	B
5	B
6	C
7	A
8	D
9	A
10	C

## 7. *Houses for Sale* pp.29–32

1	B
2	D
3	B
4	A
5	C
6	B
7	D
8	C
9	A
10	D

## 8. *Victorian Child Labour* pp.33–36

1	C
2	A
3	D
4	B
5	D
6	B
7	C
8	A
9	C
10	D

# Extended answers

## Comprehension Ages 9–10

### 1. Mona Lisa pp.5–8

1	B	Line 3 in paragraph 1 states 'da Vinci did not date the painting'.
2	A	The word 'depicts' has the same meaning as 'portrays'.
3	D	<p>Option A is a reason as line 7 in paragraph 2 states '...a mere 20 inches by 30 inches in size'.</p> <p>Option B is a reason as lines 11 and 12 in paragraph 2 state 'Many visitors will also be clutching mobile phones or cameras, hoping to pose for a quick snap, which can block the view and be distracting'.</p> <p>Option C is a reason as lines 10 and 11 in paragraph 2 state 'the room in which the iconic painting hangs can become extremely crowded, and it can be difficult to obtain an unrestricted view'.</p> <p>Option D is not a reason mentioned in paragraph 2 of the article.</p>
4	C	Lines 18 and 19 in paragraph 4 state 'This theory was first put forward as early as the 1550s by Giorgio Vasari'.
5	B	Lines 21 and 22 in paragraph 4 state 'They have noticed that the woman in the painting seems to closely resemble da Vinci himself'.
6	A	The word 'improbable' has the same meaning as 'dubious'.
7	A	Lines 26 and 27 in paragraph 5 state 'in the 1500s it was very unusual to paint a portrait of someone smiling'.
8	C	Lines 35 and 36 in paragraph 6 state 'museum officials are very concerned about the painting being attacked or damaged'.
9	D	<p>Option A is not true as lines 33 and 34 in paragraph 6 state 'In 2009, a disgruntled woman threw a mug of tea at the Mona Lisa in a protest against the French government'.</p> <p>Option B is not true as line 31 in paragraph 6 states 'The Mona Lisa is probably the most valuable painting in the world'.</p> <p>Option C is not true as lines 32 and 33 in paragraph 6 state 'it is unlikely that the French government – to whom the painting now belongs – would ever choose to sell it'.</p> <p>Option D is true as lines 34 and 35 in paragraph 6 state 'the painting was unharmed, hanging as it does behind a thick protective later of bulletproof glass'.</p>
10	C	<p>Option A is not true as line 4 in paragraph 1 states 'The portrait itself depicts a young woman with curly dark locks'.</p> <p>Option B is not true as lines 22 and 23 in paragraph 4 state 'A third theory, and perhaps the most improbable, is that the woman in the painting was actually da Vinci himself'.</p> <p>Option C is true as lines 2 and 3 in paragraph 1 state 'it was painted sometime between 1503 and 1519'.</p> <p>Option D is not true as lines 11 and 12 in paragraph 2 state 'Many visitors will also be clutching mobile phones or cameras'.</p>

# Extended answers

## Comprehension Ages 9–10

### 2. Alfred Nobel pp.9–12

1	C	The phrase 'notable figures' has the same meaning as 'exceptional people'.
2	B	The phrase 'less than complimentary' has the same meaning as 'condemnatory'.
3	A	Lines 7 and 8 in paragraph 2 state 'Alfred Nobel was born in 1833... His father... in 1837, went abroad to seek his fortune'. $1837-1833 = 4$ years
4	A	Option A is true as lines 30–32 in paragraph 5 state the prizes – which were originally £8000 per recipient. Today, a Nobel Prize winner receives... prize money of nearly £900,000'. Option B is not true as lines 32 and 33 in paragraph 5 state '...presented by the King of Sweden'. Option C is not true as lines 29 and 30 in paragraph 5 state 'he specified that his vast wealth was to be used to reward those who have 'benefited mankind''. Option D is not true as line 29 in paragraph 5 states 'Alfred died in 1896'.
5	B	Option A is true as line 17 in paragraph 3 refers to '...demolishing buildings'. Option B is not true as line 17 in paragraph 3 states 'Dynamite can be very useful – when constructing tunnels'. Option C is true as lines 18 and 19 in paragraph 3 state 'Before dynamite was invented, many of these tasks had to be completed by hand, which was very slow and very expensive'. Option D is true as lines 19 and 20 in paragraph 3 state 'the same technology can also be used to make powerful weapons'.
6	D	Option A is true as lines 3 and 4 in paragraph 1 state 'The prize ceremony is held in Stockholm, Sweden'. Option B is true as lines 15 and 16 in paragraph 2 state which 'he patented in 1867' and line 7 in paragraph 2 states 'Alfred Nobel was born in 1833'. Option C is true as line 22 in paragraph 4 refers to 'an article in a French newspaper reporting on his own death'. Option D is not true as line 30 in paragraph 5 states 'In 1897, the Nobel Foundation was established to commence awarding the prizes'.
7	D	Option A is not true as lines 28 and 29 in paragraph 5 state 'He instructed his lawyers to change his will, in which he specified that his vast wealth was to be used...'. Option B is not true as lines 1 and 2 in paragraph 1 state 'the Nobel Prize has been the ultimate prize for leading scientists, authors and other notable figures. Since 1901, the prestigious prizes have been awarded annually'. Option C is not true as line 24 and 25 in paragraph 4 state 'the journalist branded Alfred a murderer'. Option D is true as line 28 in paragraph 5 states 'He instructed his lawyers to change his will'.
8	C	Line 12 in paragraph 2 states 'Alfred was sent to Paris to study'.

# Extended answers

## Comprehension Ages 9–10

### 2. Alfred Nobel pp.9–12

9	B	<p>Lines 10 and 11 in paragraph 2 state ‘...moving to St Petersburg...where his family eventually joined him’.</p> <p>Line 7 in paragraph 2 states ‘Alfred Nobel was born in 1833 in Stockholm’.</p> <p>Line 29 in paragraph 5 states ‘Alfred died in 1896 in Milan’.</p> <p>Therefore, Oslo is the location not mentioned.</p>
10	C	Lines 7 and 8 in paragraph 2 states ‘made a living as a builder’.

### 3. Jane Austen pp.13–16

1	D	Jane Austen did not marry Tom Lefroy as line 18 in paragraph 2 states ‘her parents forbade the union’. She did not marry Harris Bigg-Wither either as line 27 in paragraph 4 states ‘she broke off their engagement’.
2	C	Line 32 in paragraph 5 states ‘titled Elinor and Marianne’.
3	B	<p>Option A is not true as lines 30 to 35 in paragraph 4 state ‘George Austen died very suddenly and unexpectedly’.</p> <p>Option B is true as line 12 in paragraph 2 states ‘Jane met and fell in love with a dashing young Irish barrister’.</p> <p>Option C is not true as lines 32 and 33 in paragraph 5 refers to ‘her older brother Henry’.</p> <p>Option D is not true as line 23 in paragraph 4 refers to ‘wealthy Harris Bigg-Wither’.</p>
4	D	Lines 23 and 24 in paragraph 4 state ‘within a fortnight’.
5	A	Line 1 in paragraph 1 states ‘Jane was born...on 16th December 1775’ and line 41 in paragraph 7 states ‘Jane died on 18th July 1817’.
6	B	Lines 35 and 36 in paragraph 5 state ‘Pride and Prejudice to follow in 1813... Mansfield Park appeared in print two years later’.
7	D	Line 21 in paragraph 3 refers to ‘...the Rectory’.
8	A	Lines 38 and 39 in paragraph 6 state ‘Austen’s Persuasion... the first to reveal the identity of the author’.
9	B	<p>Option A is true as lines 12 and 13 in paragraph 2 state ‘In 1796...Jane met...Tom Lefroy’.</p> <p>Option B is not true as lines 3 and 4 in paragraph 1 state ‘When Cassandra was sent to further her education in Oxford, Jane insisted upon attending the same school’.</p> <p>Option C is true as lines 26 and 27 in paragraph 4 state ‘Jane decided that, like all the heroines in her novels, she should only marry for love’.</p> <p>Option D is true as line 33 in paragraph 5 refers to ‘bookseller Thomas Egerton’.</p>
10	C	Line 3 in paragraph 1 states ‘Cassandra, born in January 1773’. Line 1 in paragraph 1 states that ‘Jane Austen was born...on 16 December 1775’.

# Extended answers

## Comprehension Ages 9–10

### 4. San Francisco pp.17–20

1	A	Lines 17 and 18 in paragraph 4 state 'By this time – 1929 – the Great Depression had begun to bite... so it was to be almost four years before building works finally commenced' and line 27 in paragraph 5 states 'The Golden Gate Bridge was finally opened in May 1937'.
2	D	Option A is true as lines 22 and 23 in paragraph 5 state 'Upon completion, the bridge was painted in a colour known as International Orange'. Option B is true as lines 31 and 32 in paragraph 6 state '80% of the city was decimated, mainly due to the vast number of devastating fires that broke out'. Option C is true as lines 37 and 38 in paragraph 7 state 'housed America's criminals who perennially behaved badly'. Option D is not true as lines 3 and 4 in paragraph 1 state that the cable trams 'replaced traditional horse-drawn cabs'.
3	C	Lines 42 and 43 in paragraph 7 state 'six were shot dead and two were drowned. Five prisoners are still officially listed as 'missing, presumed drowned'.
4	B	Line 33 in paragraph 6 states 'around 300,000 residents out of a total population of 400,000 were displaced'.
5	D	Lines 16 and 17 in paragraph 4 state 'Joseph Strauss...won the contract'.
6	C	Lines 25 and 26 in paragraph 5 state 'safety nets were installed under the bridge'.
7	A	Lines 5 and 6 in paragraph 2 state 'a local carpenter...made a discovery that was transform the region – gold'.
8	B	Option A is not true as lines 7 to 9 in paragraph 2 state 'San Francisco was separated from... Marin Headlands by a...body of water known as the Golden Gate Strait'. Option B is true as line 5 in paragraph 2 states that 'in January 1848' gold was discovered in the region, and in lines 9 and 10 that 'engineers submitted their designs for a bridge-building project to the city authorities that same year'. Line 27 in paragraph 4 states 'The Golden Gate Bridge was finally opened in May 1937'. Option C is not true as line 38 in paragraph 7 refers to '...the choppy waters surrounding the island'. Option D is not true as lines 37 to 40 in paragraph 7 state 'The jail was established in August 1934...During its 29 years as a prison'.
9	D	Lines 28 and 29 in paragraph 5 state 'it has since been named one of the seven wonders of the modern world'.
10	C	Line 24 in paragraph 5 refers to 'the thick fog that is often seen hovering over the bay'.

# Answers

## Spelling pp.5–6

1	C	lenient
2	B	spicy
3	A	principal
4	A	savoured
5	B	through
6	C	whose
7	B	minor
8	C	role
9	A	razed
10	B	plain
11	N	–
12	A	muscles
13	C	conscious
14	A	curiosity
15	D	lessons
16	D	committee
17	D	forty
18	D	weird
19	C	boarding
20	D	beach
21	D	alterations
22	D	review
23	B	leisure
24	A	truly
25	C	unfamiliar
26	N	–
27	C	ceiling
28	B	palette
29	B	hoarse

## Spelling pp.7–8

30	A	wrung
31	D	gist
32	B	source
33	N	–
34	C	independent
35	C	advice
36	C	definitely
37	C	desserts
38	A	vain
39	C	hangers
40	N	–
41	B	neigh
42	B	pale
43	B	kerb
44	D	mousse
45	B	fleas
46	D	irresistible
47	C	lollipop
48	N	–
49	B	embarrassed
50	B	noticeable
51	D	persistent
52	D	draught
53	C	profit
54	B	pedals
55	A	allowed
56	B	harassed
57	B	threshold
58	B	religious
59	N	–
60	A	unforeseen

## Synonyms p.9

1	protected
2	impartial
3	vulgar
4	pamper
5	inform
6	liable
7	related
8	exhausted
9	cheerfully
10	jealousy
11	astound
12	jittery
13	expired
14	largely
15	suspicious
16	temporary
17	impressive
18	affection
19	volatile
20	livid
21	grim
22	ruled
23	loyal

## Synonyms p.10

24	merge
25	mindful
26	incredible
27	diary
28	recently
29	locate
30	diminutive
31	injure
32	comprehend
33	adjust
34	method
35	motivate
36	dappled
37	murky
38	initial
39	rebellion
40	mystify
41	negotiate
42	dampness
43	ordinarily
44	novice
45	invalid
46	inflexible
47	obscure
48	obstacle
49	occurrence

# Answers

## Synonyms

p.11

50	curiously
51	intersection
52	ordinary
53	mariner
54	odious
55	odourless
56	ominous
57	exclude
58	vitality
59	viewpoint
60	systematic
61	outsmart
62	overbearing
63	supervise
64	splendid
65	procession
66	enigma
67	partial
68	specific
69	enduring
70	convincing
71	calmly
72	plea
73	dilemma
74	overdue
75	swoop

## Synonyms

p.12

76	mirth
77	outline
78	competitor
79	pointless
80	contaminate
81	ration
82	sure
83	perilous
84	wait
85	precise
86	forecast
87	prefer
88	missing
89	valuable
90	purchase
91	propel
92	outspoken
93	progress
94	evidence
95	overcome
96	likely
97	prosperity
98	pry
99	presently
100	strict

## Antonyms

p.13

1	intact
2	separate
3	lenient
4	liberty
5	kind
6	agitate
7	unknown
8	oppose
9	natural
10	generous
11	upright
12	veteran
13	gradually
14	abstain
15	reasonable
16	rejection
17	inaccurate
18	reassuring
19	irksome
20	ashamed
21	contempt
22	compassion
23	compelling

## Antonyms

p.14

24	unconcerned
25	denial
26	anonymous
27	approval
28	outdated
29	simplicity
30	consent
31	console
32	helpful
33	dawdle
34	inexpensive
35	deceitfully
36	decipher
37	dedicated
38	deduction
39	graceful
40	displeasure
41	deliberate
42	insult
43	return
44	prosperous
45	provide
46	despair
47	creation
48	improve
49	deter

# Answers

## Antonyms

p.15

50	healthy
51	assertive
52	dingy
53	cleanse
54	emerge
55	detached
56	receive
57	disclose
58	courteous
59	disloyal
60	displeased
61	unify
62	unlikely
63	drain
64	demanding
65	wasteful
66	elevate
67	clarify
68	protect
69	endless
70	energetic
71	enlightened
72	roughly
73	squander
74	unskilled
75	extract

## Antonyms

p.16

76	moderate
77	forged
78	powerful
79	drought
80	previous
81	forlorn
82	stale
83	unwilling
84	specific
85	disagreeable
86	blustery
87	retain
88	uncertain
89	boisterous
90	unfasten
91	fantasy
92	humid
93	probable
94	methodical
95	suitable
96	complicated
97	changeable
98	unnecessary
99	unofficial
100	exclude

## Synonyms: missing letters

pp.17-18

1	flawless
2	immense
3	inventive
4	stunning
5	estimate
6	amazing
7	tempest
8	instinct
9	triumph
10	suitable
11	startled
12	doubtful
13	banned
14	tedious
15	final
16	appalling
17	thorough
18	thriving
19	irritating
20	bearable
21	tremble
22	absence
23	turbulent
24	gratitude
25	invincible
26	believable
27	uncertain
28	persuade
29	utterly

## Synonyms: missing letters

pp.19-20

30	conquer
31	assorted
32	vastly
33	savage
34	voyage
35	withdraw
36	shabby
37	roughly
38	abruptly
39	adjust
40	obtain
41	adhere
42	critical
43	confessed
44	adorable
45	altitude
46	quantity
47	additional
48	applaud
49	fitting
50	difficult
51	fragrance
52	achieve
53	drenched
54	awkward
55	support
56	bewilder
57	benefit
58	beside
59	broaden
60	changeable

# Answers

## Antonyms: missing letters

pp.21–22

1	impress
2	adequate
3	competent
4	install
5	abolish
6	separate
7	visible
8	miserable
9	reluctant
10	strenuous
11	hurried
12	lethal
13	flimsy
14	scarcely
15	rapidly
16	rashly
17	quality
18	rebuild
19	advance
20	improve
21	attract
22	resist
23	pleasant
24	gripping
25	exact
26	natural
27	wisdom
28	salvage
29	identical

## Antonyms: missing letters

pp.23–24

30	expenses
31	confident
32	critical
33	complete
34	secretive
35	release
36	sensible
37	together
38	jagged
39	severe
40	superior
41	trivial
42	silent
43	harmless
44	coarse
45	friendly
46	praise
47	spacious
48	spiteful
49	inactive
50	standard
51	starve
52	stationary
53	steeply
54	unclean
55	inspire
56	terminate
57	stubborn
58	submerge
59	increase
60	sweltering

## Synonyms: the odd one out

p.25

1	attention
2	diary
3	vague
4	special
5	collector
6	genuine
7	habitat
8	brawl
9	cursory
10	ominous
11	tangle
12	replay
13	astute
14	fractured
15	distribution
16	wallow
17	thoughtful
18	baleful
19	change
20	orderly
21	report
22	linear
23	solidarity

## Synonyms: the odd one out

p.26

24	abashed
25	acute
26	prevention
27	select
28	jealousy
29	wander
30	equal
31	twitter
32	rebel
33	obtuse
34	ban
35	perform
36	shrill
37	strike
38	explore
39	trial
40	disrupt
41	bowl
42	modify
43	scold
44	opponent
45	hedge
46	exceed
47	squander
48	variety
49	credulous

# Shuffle Sentences

## Test 17

1. she ran faster because she wanted to win the  
face  
running
2. The temperature had dropped as night fell  
cold
3. how did you finish your homework so quickly  
rush
4. they showed great spirit in the face of adver-  
sity  
ghost
5. the broken down car was towed away  
wheel
6. the race was closely fought by the competi-  
tors  
line
7. a rainbow makes the skies colourful  
sun
8. the clothes dried in the warm breeze  
line
9. the small shoes pinched him  
rubbing
10. she leafed through the books in the library  
tree

## Test 18

1. the bough of the tree was very low  
**bow**
2. they bought a chair at the bazaar  
**bizarre**
3. she was annoying her brother today  
**shouted**
4. she broke her mum's favourite vase  
**flower**
5. he dived in and swam a length  
**pool**
6. the bride walked down the aisle  
**isle**
7. her sore throat had made her voice hoarse  
**horse**
8. we idle the hours away in the garden  
**idol**
9. the team discussed tactics before the game  
**disgust**
10. the headteacher banned all homework  
**band**