Answers to Sample 11+ Assessment Test for GL Assessment — Maths

1) B
£5 + £2 = £7, 5p + 2p + 1p = 8p. £7 + 8p = £7.08

2) 10:05
The first train after 9 am from Chapel Street is at 9:15.
It arrives in Lanston at 10:05.

3) B
The cake is cut into 8 equal pieces, so each piece is $\frac{1}{8}$.

4) D
The right angled triangle has 1 right angle, the square has 4 right angles. None of the other shapes have any.

5) C
In the 24-hour clock, if the hour is greater than 12 the time is between midday and midnight, which is pm. To convert from the 24-hour clock to the 12-hour clock, subtract 12 from the hour: 16 − 12 = 4. So 16:50 is the same as to 4:50 pm, which is ten to five in the afternoon.
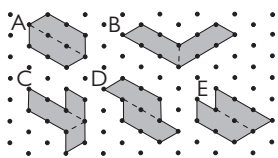
6) (4, 2)
Here is the route she follows:
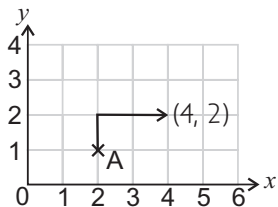
Don't forget — the x-axis coordinate always goes first when you're writing coordinates.

7) C
A, B, D and E can be split into two of the trapezium-shaped tiles shown. C can't because the tiles overlap.

8) 1404
There are 3 lots of 2808 (multiplication is repeated addition), which is equal to 6 lots of something. 6 is double 3, so halve 2808 to find the missing number. Half of 2808 is 1404. So 2808 + 2808 + 2808 = 1404 × 6.

9) £8.91
Round each 99p up to £1 by adding 1p, then multiply by 9:
£1 × 9 = £9. You added 9 × 1p to the total cost.
So subtract the extra 9p. £9 − 9p = £8.91

10) 5
Work through your 5 times table until you come to first number greater than 24. 5 × 5 = 25, so 5 tents would be enough.

11) D
Read the number of children who chose plums and the number who chose pears off the horizontal axis. Plums = 40, pears = 15. Subtract to find how many more children chose plums than pears: 40 − 15 = 25.

12) 1.07
One way of doing 10 − 8.93 is to count up from 8.93 to 10 on a quick sketch of a number line:
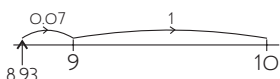
0.07 + 1 = 1.07

13) 61
You can't calculate the blue team total straight away. One method is to calculate the number of points won by the Year 5 blue team first (90 − 27 − 32 = 31). Then use this to find the blue team total (31 + 30 = 61).

Team	Year 5	Year 6	Total
Red	27	50	77
Yellow	32	25	57
Blue	**31**	30	**61**
Total	90	105	

Alternatively, find the grand total by adding the numbers on the bottom row (90 + 105 = 195). Then use this to find the blue team total (195 − 77 − 57 = 61).

14) B
In 45.952, 9 is in the tenths column. Look at the number in the next column to the right (the hundredths). It is 5, so round the 9 tenths up to 10 tenths. 10 tenths is one unit, so the rounded number is 46.0.

15) B
The whole circle represents 36 children. The yellow area of the pie chart is a quarter of the circle. $\frac{1}{4}$ of 36 is 36 ÷ 4 = 9. 9 children wore yellow hats.

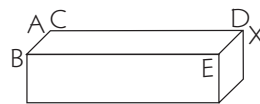**16) 8.1 l**
Add up the three volumes:

$$\begin{array}{r} 4.4 \\ 0.9 \\ + \underline{2.8} \\ 8.1 \\ {\scriptstyle 2} \end{array}$$

17) D
Imagine folding the net up to make a cuboid.
Corner D will touch X.

18) 36.6 g
$\frac{1}{4}$ tin has 12.2 g of carbohydrate. $\frac{3}{4}$ is 3 times as much as $\frac{1}{4}$, so 12.2 g × 3 = 36.6 g of carbohydrate.

19) 6p
10% of 40p is 40 ÷ 10 = 4p. So the cost of each packet is 40 − 4 = 36p. There are 6 bears in each packet, so the cost of each bear is 36 ÷ 6 = 6p.

20) 27 books
8 out of every 9 of her books are novels. She has 24 novels, and 24 ÷ 8 = 3, so her total number of books must be 9 × 3 = 27.

21) A
You need to use BODMAS to work out each option.
A: 8 × 3 = 24, 48 − 24 = 24 — A is the correct answer.
B: 11 × 2 = 22, 3 + 22 = 25.
C: 3 × 7 = 21
D: 24 ÷ 2 = 12, 12 − 1 = 11
E: 4 × 4 = 16, 2 + 16 = 18

22) D
Scalene triangles have three different sides and three different angles. Rhombuses, kites, regular pentagons and isosceles triangles have at least two equal sides and two equal angles.

23) E
Multiples of 100 are divisible by 4 (100 ÷ 4 = 25), so ignore the number in the hundreds column and see if the rest of the number is divisible by 4.
A: 324 so 24 ÷ 4 = 6
B: 116 so 16 ÷ 4 = 4
C: 288 so 88 ÷ 4 = 22
D: 132 so 32 ÷ 4 = 8
E: 138 so 38 ÷ 4 = 9 r 2. So E is the answer.

24) 0.9 kg
First calculate the mass of the 7 peaches:
7 × 200 g = 1400 g. 1 kg = 1000 g, so 1400 g = 1.4 kg.
The mass of the basket: 2.3 − 1.4 = 0.9 kg.

25) 6
The total of the numbers is 54, and there are 9 numbers altogether. So the mean is 54 ÷ 9 = 6.

26) C
Angle y is bigger than a right angle (90°), so it can't be 60° (B) or 90° (D). It is smaller than a straight line (180°), so it can't be 180° (A). 175° (E) is almost a straight line and angle y is smaller than a straight line by more than 5°. So that leaves C as the only possible answer.

27) B
Look at the points on the graph and see which child has a gap of 2 points between their two scores. Peter is the only child with a difference of 2 points. If you read off the graph, his scores are 9 and 7.

28) 25.5
There are 10 spaces between 24 and 26. So each space is worth 2 ÷ 10 = 0.2. The arrow is pointing half way between 25.4 and 25.6. Half of the gap between 25.4 and 25.6 is 0.2 ÷ 2 = 0.1, so the number the arrow is pointing to is 25.4 + 0.1 = 25.5.

29) 48 m²
The area of a triangle is $\frac{1}{2}$ × base × height. The playground is made up of four identical triangles. The area of one of them is $\frac{1}{2}$ × 6 × 4 = 12 m². So the area of the whole playground is 12 × 4 = 48 m².

30) 32
To find the answer you need to work backwards from 131.
You're told that a number was divided by 2 to make 131 — so the number was 131 × 2 = 262. You're told that 6 was added to a number to make 262, so subtract 6 from 262, 262 − 6 = 256. You're told that a number was multiplied by 8 to make 256, so divide 256 by 8. 256 ÷ 8 = 32.

31) B
The angles, corners and the lines of symmetry are marked on the shape below (a right angle = 90°).
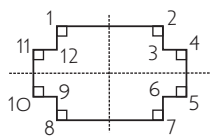
The shape has eight internal 90° angles, not four.
So B is incorrect.

32) Croc Chase
On the graph, you can see that the February sales are lowest.
The only game for which this is true is Croc Chase.

33) £15
If Amanda spent 60% of her pocket money, she must have 40% left. 40% = £6.00, so 10% would be £6 ÷ 4 = £1.50.
So 100% would be 10 × £1.50 = £15.

34) 28 cm
The length of each side of the hexagon is 2 cm.
The outer edge of the shape is made up of 14 hexagon sides.
So the total length = 2 × 14 = 28 cm

35) 50 mins
Divide 1 litre by 20 ml to see how many minutes it will take.
1 litre = 1000 ml. So you need to work out 1000 ÷ 20.
You can make this easier to work out by dividing both numbers by 10, so that's 100 ÷ 2 = 50 mins.

36) −8 °C
The temperature drops from 1 °C to −2 °C, which is a drop of 3 °C, from Tuesday to Wednesday. Twice this is 3 °C × 2 = 6 °C. 6 °C lower than −2 °C is −8 °C.

37) 500 g
The ingredients given make 12 cakes.
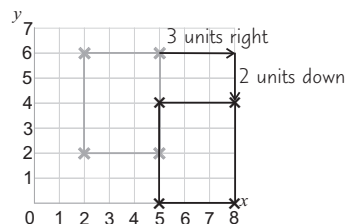40 cakes = 3 lots of 12 cakes + 4 cakes.
4 cakes = $\frac{1}{3}$ of 12 cakes. She will need to multiply the amount of butter given by $3\frac{1}{3}$. You can partition $3\frac{1}{3}$ into $3 + \frac{1}{3}$
$\frac{1}{3}$ × 150 g = 150 ÷ 3 = 50 g. 150 g × 3 = 450 g.
So the total amount of butter is 450 g + 50 g = 500 g

38) D
Look at the top right corner of the rectangle, and follow the instructions to see where it would move to.

The top right corner would now be at point (8, 4).
This coordinate is only in option D, so that's the answer.

39) £60
There are 5 + 4 = 9 'parts' altogether, so divide £540 by 9 to find that 1 part = £60. So one charity receives 5 × £60 = £300, while the other receives 4 × £60 = £240. This means the difference is £60.

40) 152 cm³
Volume of cube = length × width × height. You're not given the height for the cube, but it must be 4 cm, because the length, width and height of a cube are all equal.
So the volume = 4 cm × 4 cm × 4 cm = 64 cm³
Volume of cuboid = length × width × height.
The width of the cuboid is equal to the width of the cube, so the volume = 5.5 cm × 4 cm × 4 cm = 88 cm³
Total = 64 cm³ + 88 cm³ = 152 cm³

41) E
The numbers increase by 5 each time. This means that the sequence is related to the 5 times table, and $5n$ will be in the nth term expression. The first term is 3, so when $n = 1$, the expression must give 3. So it must be $5n − 2$, because $5 × 1 − 2 = 3$.

42) E
The mean of a set of four numbers is the total of the numbers divided by 4. So if the mean is 4, the total of the numbers is 4 × 4 = 16. The two sides you can see add up to 11 (3 + 8). So the two hidden sides must add up to 16 − 11 = 5. The only pair of numbers in the answer choices that add up to 5 is 1 and 4.

43) 375 g
First find out how many 2ps make up £1. £1 = 100p, so there are 100 ÷ 2 = 50 coins in each pile. So each pile should weigh 50 × 7.5 = 375 g.

44) (7, 6)
The shape is a parallelogram, so the top edge is the same length as the bottom edge. The length of the bottom edge can be found by subtracting the x-coordinate of one end from the x-coordinate of the other end: 5 − 2 = 3 units. So the top edge is also 3 units long. This means that point T's x-coordinate is 4 + 3 = 7.
Point T's y-coordinate is 6, because it has the same y-coordinate as point (4, 6).

45) 11:05 am

If Kate travels at 60 km/h, she will cover 2 × 60 = 120 km
in 2 hours. She then goes a further 15 km (135 − 120).
15 km is $\frac{1}{4}$ of 60 km, so she will travel 15 km in $\frac{1}{4}$ of an hour.
She travels for $2\frac{1}{4}$ hours in total. If she starts at 8:50 am,
she will arrive at 11:05 am.

46) C

The amount of discount received off the original price of £27.50
was £27.50 − £24.75 = £2.75. Divide the original amount by the
discounted price. 27.50 ÷ 2.75 = 10.

47) C

The different sizes of the symbols makes this graph misleading, e.g.
the line of hamsters is the shortest on the pictogram, but they're
the most popular pet.

48) £17.40

Bella gets 6 boxes of 20 cards for 4 × £3.90.
Partition £3.90 into £3 + 90p. 4 × £3 = £12, 4 × 90p = £3.60
£12 + £3.60 = £15.60. She also gets 12 cards for £1.80.
Total cost = £15.60 + £1.80 = £17.40.

49) 67°

Put 46° into the formula. m = (180 − 46) ÷ 2.
m = 134 ÷ 2 = 67°.

50) B

The customer is charged £50 for the job, plus the number
of hours (h) multiplied by £25.
So the cost = 50 + 25 × h or 50 + 25h.