Maths Mock Test Paper 6 Answers

Q#	Answer	Explanation
1	C	One tin covers 20 ÷ 5 = 4 m², so 32 m² needs 32 ÷ 4 = 8 tins.
2	B	The two items cost £4.50 + £1.20 = £5.70, so the change is £10.00 − £5.70 = £4.30.
3	D	A quarter turn is 90°, a half turn is 180°, and a whole turn all the way round is 4 × 90° = 360°.
4	C	A factor divides exactly with nothing left over. 24 ÷ 8 = 3, so 8 is a factor of 24. None of the others divide into 24 exactly.
5	C	Each number is 3 less than the one before, so the next term is 11 − 3 = 8.
6	C	To find 1/3 of a number, divide it by 3. 27 ÷ 3 = 9.
7	C	Divide the distance by the time: 240 ÷ 3 = 80 km/h.
8	E	Every point on this line has a y-coordinate 2 more than its x-coordinate. Only (4, 6) does that, since 4 + 2 = 6.
9	C	Take away 50 from 93 to get 43, then add back the extra 3 to get 46.
10	C	One hour is 60 minutes and half an hour is 30 minutes, so together they make 60 + 30 = 90 minutes.
11	D	The bottom of the well is at −12 m and the top of the pole is at 9 m, so the difference is 12 + 9 = 21 m.
12	E	The two marked angles are on opposite sides of the slanted line and between the parallel lines. Alternate angles like these are equal, so x = 115°.
13	A	In order they are 6, 7, 9, 10, 11, 12, 14, 15. With eight numbers the median lies between the fourth and fifth: 10 + 11 = 21, and 21 ÷ 2 = 10.5.

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14	A	Train C leaves Cwmbran at 08:38 and reaches Hereford at 09:22. From 08:38 to 09:22 is 44 minutes.
15	C	10% of 150 is 15, so 20% is 30. 1% is 1.5, so 2% is 3. 30 − 3 = 27.
16	A	The speeds are 90 ÷ 1.5 = 60 km/h, 100 ÷ 2 = 50 km/h and 140 ÷ 2.5 = 56 km/h, so journey A is the fastest.
17	A	The £3 is charged once, and the miles cost 2 for each mile, which is 2m, giving 3 + 2m.
18	D	A line crosses the y-axis where x = 0. Putting x = 0 into the rule gives y = −3, so the crossing point is (0, −3).
19	B	Width is area divided by length: 96 ÷ 12 = 8 cm.
20	C	If all 30 vehicles had 2 wheels there would be 60 wheels. There are 40 extra wheels and each car adds 2 extra, so there are 40 ÷ 2 = 20 cars.
21	C	7 × 12 = 84. Split it up: 7 × 10 = 70 and 7 × 2 = 14, and 70 + 14 = 84.
22	D	A quarter of an hour is 15 minutes, so the water is 15 × 2.5 = 37.5 litres.
23	B	The square root asks which number multiplied by itself gives 400. Since 20 × 20 = 400, the square root is 20.
24	B	The point (0, 6) is 6 squares from the origin, straight up the y-axis. The point (−6, 0) is 6 squares from the origin along the x-axis, so it is exactly as far away.
25	C	900 g of flour is 900 ÷ 6 = 150 g for each part, so the sugar is 3 × 150 = 450 g.
26	C	The pattern grows by 3 each time. From the 1st to the 20th there are 19 steps, so 4 + 19 × 3 = 61.
27	A	Dividing by 100 moves digits two places to the right of the decimal. 4,300 becomes 43.
28	C	The field is 10 × 6 = 60 m² and the pond is 4 × 3 = 12 m², so 60 − 12 = 48 m² is left.
29	A	Nine less than −4 means −4 − 9, which takes you 9 further to the left, to −13.

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30	B	There are 2 results for the coin and 6 for the dice, giving 2 × 6 = 12 equally likely pairs in total. Only one of those pairs is a head with a 6, so the probability is 1/12.
31	C	'Of' means multiply: 2/3 × 3/4 = 6/12, which simplifies to 1/2.
32	B	The triangle is isosceles, so the two base angles are equal. They share 180° − 100° = 80°, so x = 80° ÷ 2 = 40°.
33	D	The two parts are 3 × 80 = 240 km and 2 × 105 = 210 km, so the total is 240 + 210 = 450 km.
34	E	The sailing leaves at 08:40 and arrives at 10:15. From 08:40 to 10:15 is 1 hour 35 minutes.
35	C	To round to 1 decimal place, look at the 2nd decimal digit (7). Since 7 ≥ 5, we round up. 4.67 → 4.7.
36	B	Week 5 gave 40 eggs. One per cent of 40 is 40 ÷ 100 = 0.4, so 15% is 0.4 × 15 = 6 eggs. Week 6 was that much more: 40 + 6 = 46.
37	C	8 minutes is 480 seconds, so the speed is 2400 ÷ 480 = 5 metres per second.
38	B	The first three significant figures are 6, 3, and 8. The next digit is 1 (< 5), so we round down. 6,381 → 6,380.
39	C	Each face is 10 × 10 = 100 cm², and a cube has 6 faces, so the surface area is 6 × 100 = 600 cm².
40	C	The square is 4 squares wide, from 2 to 6, and 4 squares tall, from 1 to 5. The missing corner must be level with (6, 1) and below (2, 5), which is (2, 1), not (2, 2).
41	A	The sequence goes down in 4s, so the rule contains −4n. Checking n = 1: 49 − 4 = 45, which is correct.
42	B	The ratio has 2 + 3 + 4 + 6 = 15 parts sharing 360°, so one part is 24°. The smallest angle is 2 parts: 2 × 24° = 48°.
43	E	Take a starting price of £100. A 10% increase gives £110. A 20% decrease of £110 is £22, leaving £88. That is £12 less than £100, so it is a 12% decrease.

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44	B	The distance from −40 to 24 is 64, and half of 64 is 32. Counting 32 on from −40 gives −8.
45	C	The sale price is 70% of the original. Since 70% is £42, then 10% is £6, so the original price was £60.
46	C	One part is 12 ÷ 6 = 2 litres, so there are 2 litres of concentrate and 10 litres of water. For a ratio of 1 : 7 the water must be 7 × 2 = 14 litres, so 14 − 10 = 4 litres are added.
47	C	Count up from 468: 32 more makes 500, then 500 more makes 1,000, giving 532 altogether.
48	C	The meetings are on the 3rd, then 10 days later on the 13th, then 10 days after that on the 23rd. The third meeting is the 23rd.
49	B	Multiplying by 10 moves every digit one place value larger. The millions column moves to the ten millions column.
50	C	45 cm is 0.45 m, so the perimeter is 2 × (1.6 + 0.45) = 2 × 2.05 = 4.1 m.

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