Maths Mock Test Paper 4 Answers

Q#	Answer	Explanation
1	B	Area is length × width. The rectangle covers 6 × 4 = 24 cm² and the square covers 5 × 5 = 25 cm², so the square is larger by 25 − 24 = 1 cm².
2	A	B is 3 squares to the right of the mirror line, because 7 − 4 = 3. Its image is 3 squares to the left, at 4 − 3 = 1 across, still 5 up. So it is (1, 5).
3	B	10% of £20 is £20 ÷ 10 = £2, so £2 is taken off the price.
4	C	Replace p with 15, which gives 15 − 9 = 6.
5	C	£25 of the money clears the debt and brings the balance to £0, leaving £15 in the account.
6	D	Seven packets of eight biscuits is 7 × 8 = 56 biscuits.
7	C	Adding 2 hours to 07:50 gives 09:50, and adding 10 more minutes gives 10:00.
8	B	Work in millilitres: 1.5 litres is 1,500 ml. The glasses take 200 × 3 = 600 ml, so what is left is 1,500 − 600 = 900 ml.
9	C	February usually has 28 days, but in a leap year it gains one extra day, the 29th.
10	C	The ones digit decides which way a number rounds. Every number from 55 to 64 rounds to 60. 52 and 54 round down to 50, and 66 and 67 round up to 70, so only 56 works.
11	B	The base runs from 1 to 7, so it is 6 squares, and the height runs from 1 to 5, so it is 4 squares. The area of a triangle is half of base times height: 6 × 4 = 24, and half of that is 12.
12	D	A percentage is a score out of 100. Since 25 × 4 = 100, multiply the score by 4 as well: 18 × 4 = 72, so Ana scored 72%.
13	C	Multiply by 10: 12.5 × 10 = 125 mm.
14	D	The perimeter is 2 × (18 + 12) = 2 × 30 = 60 cm.

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15	D	From 22:45, adding 3 hours gives 01:45 the next day, and adding 40 more minutes gives 02:25.
16	E	4n means four lots of n, which is even whatever n is, and adding 2 keeps it even. The others depend on n: taking n as 3 makes n + 2, 3n and n × n all odd, and 2n + 1 is odd for every n because it is one more than an even number.
17	B	Two minibuses seat 12 × 2 = 24 pupils, which is not enough for 32. Three seat 12 × 3 = 36, so 3 minibuses are needed and some seats are spare.
18	D	The angle matching the 65° one at the lower crossing is also 65° (corresponding angles). Angle x sits next to it on a straight line, so x = 180° − 65° = 115°.
19	D	Three rubbers cost 12 × 3 = 36p. Two pencils are worth the same as those three rubbers, so two pencils cost 36p.
20	E	The volume of a cube is edge × edge × edge, so 7 × 7 × 7 = 343 cm^3.
21	A	Three apples cost 3a and two pears cost 2p, so the total is 3a + 2p.
22	C	Going up from 10 miles meets the line four small squares above zero, and each square is worth 4 km, so 4 × 4 = 16 km.
23	C	Put both lengths in the same unit first. 2.4 m is 240 cm, and then 240 − 85 = 155 cm.
24	C	20 minutes is one third of an hour, so the distance is 96 ÷ 3 = 32 km.
25	B	From 11:25 to 14:10 is 2 hours 45 minutes: two hours take you to 13:25, then 45 more minutes reach 14:10.
26	C	In 4,700 the 4 sits in the thousands column and is worth 4,000. In 470 it sits in the hundreds column and is worth 400. Since 4,000 ÷ 400 = 10, the first 4 is worth 10 times as much.
27	D	There are 2 + 5 = 7 parts, so one part is 63 ÷ 7 = 9 cars. The blue cars are 5 parts, which is 5 × 9 = 45.

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28	C	Paper weighs 55 kg. Plastic is 40 kg and textiles is 15 kg, and 40 + 15 = 55 kg, so those two match the paper.
29	C	Write them all as decimals so they can be compared: 1/4 = 0.25, 20% is 0.2 and 1/8 = 0.125. The five amounts are 0.25, 0.2, 0.3, 0.125 and 0.28, and the largest of these is 0.3, so Cara ate the most.
30	B	The numbers go down by 5 each time, so after −8 comes −8 − 5 = −13.
31	C	Round each number to the nearest ten before multiplying: 38 becomes 40 and 52 becomes 50. The estimate is then 40 × 50 = 2,000 seats.
32	C	This is the lowest common multiple of 4 and 5. Multiples of 4: 4, 8, 12, 16, 20. Multiples of 5: 5, 10, 15, 20. They meet after 20 minutes.
33	A	Four 25s make 100, so multiplying by 25 is the same as multiplying by 100 and then dividing by 4. That gives 24 × 100 = 2,400, and 2,400 ÷ 4 = 600.
34	B	Using (n − 2) × 180° = 900°, divide both sides by 180° to get n − 2 = 5, so n = 7.
35	C	The lessons take 6 × 45 = 270 minutes, and adding the break gives 290 minutes, which is 4 hours 50 minutes.
36	C	The total is −11 − 4 + 0 + 3 = −12, and −12 ÷ 4 = −3.
37	C	Pair the numbers from the outside in: 1 + 10 = 11, 2 + 9 = 11, 3 + 8 = 11, 4 + 7 = 11 and 5 + 6 = 11. There are five pairs of 11, so the total is 11 × 5 = 55.
38	D	The six numbers add up to 6 × 9 = 54, and the two removed come to 3 + 15 = 18, leaving 54 − 18 = 36. The mean of the four left is 36 ÷ 4 = 9, so the mean has not changed.
39	C	The side from (1, 2) to (4, 2) is horizontal and 4 − 1 = 3 units long. The side from (4, 2) to (4, 6) is vertical and 6 − 2 = 4 units long. A rectangle has two of each side, so the perimeter is 3 + 4 + 3 + 4 = 14 units.
40	C	The lawn is 12 × 7 = 84 m² and the pond is 6 m², so 78 m² needs turf, costing 78 × £6 = £468.

41	D	The ratio is made of 2 + 3 + 4 = 9 parts, so one part is 4,500 ÷ 9 = 500. Cara has four parts, which is 500 × 4 = 2,000, so she receives £2,000.
42	B	The two parts take 1 hour and 2 hours, so the journey is 120 km in 3 hours, giving 120 ÷ 3 = 40 km/h. It is not 45 km/h, because more time is spent at the slower speed.
43	C	The two marked angles are corresponding angles, so they are equal: 2x + 20° = 3x − 10°. Taking 2x from both sides gives 20° = x − 10°, so x = 30°.
44	C	If Tom starts with t, Sara has 3t. After the swap 3t − 10 = t + 10, so 2t = 20 and t = 10. Sara started with 3 × 10 = 30.
45	E	The biggest digit must go in the highest column, then the next biggest in the next column, and so on. Placing them in order 9, 7, 4, 2, 0 makes 97,420.
46	D	After a 40% decrease the result is 60% of the original. So 60% = 54, which means 10% = 9. The original (100%) is 9 × 10 = 90.
47	D	The power tells you how many 3s are multiplied together, so this is four of them: 3 × 3 × 3 × 3 = 81.
48	D	The width is 150 ÷ 15 = 10 cm, so the perimeter is 2 × (15 + 10) = 50 cm.
49	B	The walk takes 15 minutes, the train to Crewe takes 53 minutes and the train to Chester takes 33 minutes. The longest is the train to Crewe.
50	C	Work in millilitres: 45 × 1,000 = 45,000 ml. At 250 ml a second the time taken is 45,000 ÷ 250 = 180 seconds, and 180 ÷ 60 = 3 minutes.

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