Maths Mock Test Paper 8 Answers

Q#	Answer	Explanation
1	D	The angles inside any quadrilateral add up to 360°. Here 70° + 70° + 110° = 250°, so x = 360° − 250° = 110°.
2	B	Add the numbers: 7 + 3 + 8 + 6 = 24. Then divide by how many there are: 24 ÷ 4 = 6.
3	A	Subtract the bill from the money given: £20.00 − £13.60 = £6.40.
4	C	Halving twice divides by 4: half of 100 is 50, and half of 50 is 25.
5	A	The height does not change, so there is no up or down move. The x-coordinate goes from 1 to 5, and 5 − 1 = 4, so the shape moves 4 squares right.
6	A	Take 12 away from both sides: x = 12 − 12 = 0. Adding 12 to nothing still gives 12.
7	C	47 is 7 steps away from 40 and only 3 steps away from 50. Since 47 is closer to 50, the answer is 50.
8	B	Divide by 10: 35 ÷ 10 = 3.5 cm, which is 3 cm and a half.
9	D	At a steady speed the distance is proportional to the time, so 3 × 60 = 180 km.
10	B	The length and width together are half the perimeter: 34 ÷ 2 = 17 cm. So the width is 17 − 12 = 5 cm.
11	C	This asks how many lots of 0.2 fit into 0.6. Since 0.2 + 0.2 + 0.2 = 0.6, the answer is 3.
12	D	Multiply by 1,000: 3.45 × 1,000 = 3,450 m.
13	D	There are 1 + 3 + 4 = 8 parts, so one part is 120 ÷ 8 = 15 counters. The largest share is 4 parts, which is 4 × 15 = 60.
14	C	Work backwards: 22 + 8 = 30, and 30 ÷ 3 = 10. Checking, 3 × 10 − 8 = 22.
15	C	Each decorator papers 6 ÷ 4 = 1.5 rooms in a day, so 10 decorators paper 10 × 1.5 = 15 rooms.

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16	A	The answers are −9, −7, −8, −10 and −11. Only −4 − 5 gives −9.
17	B	2,543: the first significant figure is 2, and the next digit is 5 (≥ 5), so it rounds up to 3,000. The others round to 2,000 (2,499) or 4,000 (3,500, 3,501, 4,000).
18	C	The first four square numbers are 1, 4, 9 and 16. Adding them: 1 + 4 + 9 + 16 = 30.
19	B	The rectangle's perimeter is 2 × (9 + 4) = 26 cm and the square's is 4 × 6 = 24 cm, so the difference is 2 cm. Interestingly both shapes have the same area of 36 cm².
20	C	Multiples of 6: 6, 12, 18, 24, 30. Multiples of 10: 10, 20, 30. The smallest number in both lists is 30.
21	C	Counting from −13 up to −7 takes 6 steps, so −13 is 6 smaller than −7.
22	A	Steepness is how much the line climbs for each square across. The line y = x climbs 1 square for each square across, while y = 2x climbs 2, so y = 2x is steeper. Both pass through the origin.
23	B	Session 1 runs 09:00 to 09:40, session 2 runs 09:45 to 10:25 and session 3 runs 10:30 to 11:10. From 09:00 to 11:10 is 2 hours 10 minutes.
24	D	p^2 means 4 × 4 = 16, and then 16 + 3 = 19.
25	E	The table covers 11 + 9 + 5 + 13 + 7 + 5 = 50 pupils, and the no pet column holds 5 + 5 = 10 of them. That is 10 out of 50, which simplifies to 1/5.
26	C	1 hour 40 minutes is 5/3 hours, so the distance is 54 × 5 ÷ 3 = 90 km.
27	C	Two hours is 120 miles, and half an hour is 30 miles. Altogether that is 120 + 30 = 150 miles.
28	B	Twice as many gardeners take half the time, so 12 ÷ 2 = 6 hours. This is inverse proportion.
29	B	In a parallelogram two angles next to each other lie between a pair of parallel sides, so they add up to 180°. That gives x = 180° − 115° = 65°.

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30	C	The side is the number that multiplies by itself to give 169, and 13 × 13 = 169, so each side is 13 cm.
31	C	First find 1/5 of 350: 350 ÷ 5 = 70. Then multiply by 2: 70 × 2 = 140.
32	B	One third of £30 is £10, leaving £20, and after lunch he has £20 − £6 = £14.
33	C	To round to 2 decimal places, look at the 3rd decimal digit (6). Since 6 ≥ 5, we round up. £12.356 → £12.36.
34	C	To make the smallest number, order digits from smallest to largest. However, a number cannot start with 0. The smallest arrangement is 20,358. The hundreds digit is 3.
35	C	Speed is distance divided by time: 210 ÷ 3 = 70 km/h.
36	C	A line passes through the origin when x = 0 gives y = 0. Putting x = 0 into y = 5x + 2 gives 2, not 0, so that line crosses the y-axis above the origin.
37	A	The hundredths place is the second digit after the decimal. In 4.086 the 8 is in that place.
38	C	Solve 9n − 4 = 77. Adding 4 gives 9n = 81, so n = 9.
39	C	The angles of a triangle add up to 180°, so 3x + 4x + 5x = 180°. That gives 12x = 180° and x = 15°. The largest angle is 5x = 5 × 15° = 75°.
40	C	The fifth train is 4 gaps after the first, which is 4 × 35 = 140 minutes, or 2 hours 20 minutes. From 05:50 to 08:10 is 2 hours 20 minutes.
41	C	There are 24 ÷ 3 = 8 gaps between posts, and a fence always has one more post than gaps, so there are 9 posts.
42	D	From 23:40, adding 4 hours gives 03:40 the next day, and adding 55 more minutes gives 04:35.
43	D	Since 8 × 8 × 8 = 512, each edge is 8 cm. Each face is 8 × 8 = 64 cm², so the surface area is 6 × 64 = 384 cm².

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44	D	Working backwards, −13 − 8 = −21, and −21 ÷ (−3) = 7. Checking, 7 × (−3) = −21 and −21 + 8 = −13.
45	C	There are 3 + 4 + 5 = 12 parts, so one part is £924 ÷ 12 = £77. The middle share is 4 parts, which is 4 × £77 = £308.
46	E	Between 20 and 40 the numbers leaving 1 when divided by 4 are 21, 25, 29, 33 and 37. Of these, only 37 leaves 2 when divided by 5.
47	A	As decimals: 7/10 = 0.7, 0.705, 0.71, 71.5% = 0.715 and 5/7 ≈ 0.714. The smallest is 0.7, which is 7/10.
48	E	Numbers that round to 4.50 (3 s.f.) must be from 4.495 up to (but not including) 4.505. At 4.505, the digit after the 3rd significant figure is 5 (≥ 5), so it rounds up to 4.51, not 4.50.
49	C	Half of 36 is 18, so half of 3,600 is 1,800.
50	B	The primes between 50 and 70 are 53, 59, 61 and 67, which is 4 numbers.

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