Maths Mock Test Paper 25 Answers

Q#	Answer	Explanation
1	C	The printer prints 24 ÷ 3 = 8 pages each minute, so in 7 minutes it prints 7 × 8 = 56 pages.
2	A	One quarter of the class is 32 ÷ 4 = 8 pupils. Three quarters is three of those quarters, so 8 × 3 = 24 pupils walk to school.
3	C	Move 7 steps to the right from −4. Four steps reach 0, and 3 more give 3.
4	B	A quarter of the 20 pupils is 20 ÷ 4 = 5 pupils. Reading down the table, the bus is the only way of travelling used by 5 pupils.
5	D	Multiplying by 10 moves every digit one place to the left, so the number wanted is 4.5 with its digits moved one place the other way. That number is 0.45, and 0.45 × 10 = 4.5.
6	B	Find 14 in the calendar. It sits in the third row, in the column headed Tue, so the 14th is a Tuesday.
7	C	90 minutes is 1.5 hours, so the speed is 45 ÷ 1.5 = 30 km/h.
8	D	Six packs hold 6 × 6 = 36 pens, which is not enough for 40. A seventh pack brings the total to 7 × 6 = 42 pens, so Mia must buy 7 packs and will have some pens spare.
9	D	To round to the nearest 100, look at the tens digit. The tens digit is 6, which is 5 or more, so we round up to 3,300.
10	B	4x means 4 × x, so 4 × 3 = 12.
11	E	PQ runs along a grid line from (1, 1) to (5, 1), so it is 4 squares long, and QR runs straight up from (5, 1) to (5, 4), which is 3 squares. The triangle is half of a rectangle 4 squares by 3 squares. That rectangle covers 4 × 3 = 12 squares, so the triangle covers 12 ÷ 2 = 6 squares.

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12	B	The graph is a straight line through the origin, and 1 kg costs £3. So 3.5 kg costs 3 × 3.5 = 10.5 pounds, read off halfway between the points for 3 kg and 4 kg.
13	B	Each pattern uses 3 more matchsticks than the one before. From pattern 4 to pattern 8 is 4 more patterns, so 13 + 4 × 3 = 25 matchsticks.
14	D	In Alton the temperature climbs 12 degrees to reach 0°C and then another 21, so the gap is 12 + 21 = 33 degrees. Brayford has the same gap, starting from −5°C. It climbs 5 degrees to reach 0°C, leaving 33 − 5 = 28 degrees above zero, so the warmest temperature there was 28°C.
15	C	Multiplying by 100 moves every digit two places to the left, so 0.6 becomes 60.
16	D	Rounding to the nearest hundred is decided by the tens digit, which is the missing one. It must be 5 or more for the number to round up to 8,100, and 5 is the only choice offered that is big enough.
17	E	The last column shows there are 27 girls altogether, and 12 of them had a packed lunch. The rest must have had a school dinner, so 27 − 12 = 15 girls had a school dinner.
18	D	The square and the parallelogram each have two pairs of parallel sides, and the regular hexagon has three pairs. The trapezium has exactly one pair, which is what makes it a trapezium. Shape D is an arrowhead, and although two of its sides are equal to the other two, no side of it runs parallel to another, so D is the odd one out.
19	A	10% of £60 is 60 ÷ 10 = 6, so £6. Half of 10% is 5%, which is 6 ÷ 2 = 3, so £3. Since 10% and 5% together make 15%, adding them gives 6 + 3 = 9. Ben's method works, and 15% of £60 is £9.
20	B	Between those times the line runs flat, so the distance from home stays at 90 km. That means the car was parked, not travelling.
21	A	The seed either grows or it does not, and those two chances add up to 1. So the answer is 1 − 0.85 = 0.15.

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22	D	Every whole number from 75 up to 84 rounds to 80, because 85 is exactly halfway and rounds up to 90 instead. The largest whole number that still rounds down to 80 is therefore 84.
23	B	The bottom side runs from 1 to 5 across, so it is 4 squares long, and the side runs from 1 to 3 up, so it is 2 squares. All four corners are right angles, so it is a rectangle, and since 4 is more than 2 it is wider than it is tall.
24	C	Squaring means multiplying a number by itself: 13 × 13 = 169.
25	E	The milk is 3 parts, so one part is 900 ÷ 3 = 300. The flour is 4 parts, which is 4 × 300 = 1200 grams.
26	B	The thousands digit is the fourth one before the decimal point, and the tenths digit is the first one after it. In 6,214.6 both of those digits are 6. In 1,624.6 and 4,612.6 the thousands digit is 1 and 4, and in 6,142.06 and 6,421.06 the 6 after the point sits in the hundredths place, not the tenths.
27	C	If 60% is 30, then 10% is 30 ÷ 6 = 5. The whole number is 100%, which is 5 × 10 = 50.
28	E	Two hours is 120 minutes and a quarter of an hour is 15 minutes, so altogether that is 120 + 15 = 135 minutes.
29	D	The £3 starting charge is paid whatever the distance, so the miles themselves cost 17 − 3 = 14 pounds. Each mile costs £2, so the journey was 14 ÷ 2 = 7 miles.
30	A	Distance from zero ignores the sign. −13 is 13 steps from zero, which is more than any of the others.
31	D	There are 1,000 millilitres in a litre, so the bottle holds 1,500 ml. The three glasses take 3 × 350 = 1,050 ml altogether. What is left is 1,500 − 1,050 = 450, so 450 ml stays in the bottle.
32	C	The clock reads 10:20. Adding 40 minutes reaches 11:00, and 5 minutes more makes 45 altogether, so from 10:20 to 11:05 is 45 minutes.

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33	E	The lawn and the path together make a bigger square. The path adds 1 m at each end of every side, so that square has sides of 6 + 1 + 1 = 8 m and covers 8 × 8 = 64 m². The lawn itself covers 6 × 6 = 36 m². The path is whatever is left over, and 64 − 36 = 28, so its area is 28 m².
34	A	The two marked angles are co-interior: they lie between the parallel lines on the same side of the slanted line, so they add up to 180°. That gives 4x + 2x = 180°, so 6x = 180° and x = 30°.
35	C	Multiplying undoes dividing, so a division is checked by multiplying the answer by the number that was divided by. Here 29 × 12 = 348, which is the number started with, so the division is right.
36	A	If 20% is juice then 80% is water, so the ratio is 20 : 80. Dividing both parts by 20 gives 1 : 4.
37	B	Sharing something between fewer people leaves more each, so the smallest divisor gives the largest answer. The smallest number offered is 4, and 480 ÷ 4 = 120, which beats 480 ÷ 5 = 96, 480 ÷ 6 = 80, 480 ÷ 8 = 60 and 480 ÷ 10 = 48.
38	A	They meet again after a number of minutes that is in all three times tables. The lowest such number is 60, because 10, 12 and 15 all divide into it, so they next leave together at 10:00.
39	E	Each circle stands for 10 books. Class A has three and a half circles, which is 35 books, class B has 2 circles, which is 20, and class C has 3 circles, which is 30. Those three classes read 35 + 20 + 30 = 85 books between them, so class D read 130 − 85 = 45 books.
40	B	Rounding to the nearest hundred thousand is decided by the ten-thousands digit, which is 9. As it is 5 or more the hundred-thousands digit rounds up, and 9 hundred-thousands carries over into a whole extra million.
41	B	Since 19 × 19 = 361, the square root of 361 is 19. Checking nearby: 17 × 17 = 289 and 21 × 21 = 441.
42	C	5 minutes is 300 seconds, so the snail travels 2 × 300 = 600 cm, which is 6 m.

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43	D	Putting the price up by 25% adds a quarter, and 80 ÷ 4 = 20, so the price becomes 80 + 20 = 100, which is £100. Cutting £100 by 20% takes off a fifth, and 100 ÷ 5 = 20, so the price becomes 100 − 20 = 80. The final price is £80, the same as the start, because the two percentages are worked out on different amounts.
44	E	The two marked angles lie on a straight line, so 5x + x = 180°. That gives 6x = 180° and x = 30°. The larger angle is 5x = 5 × 30° = 150°.
45	E	The range is the largest number take away the smallest, so the largest number is the smallest one with the range counted on. Counting on from −7, the first 7 steps reach 0, which leaves 20 − 7 = 13 more steps, so the largest number is 13.
46	C	The whole rectangle is 14 × 10 = 140 cm² and the piece cut out is 6 × 5 = 30 cm², so the area is 140 − 30 = 110 cm².
47	E	The temperature falls 8 degrees to reach 0°C and then another 7 degrees below it, so the whole fall is 8 + 7 = 15 degrees. At 3 degrees an hour that takes 15 ÷ 3 = 5 hours, and five hours after midday is 17:00.
48	C	One person needs 300 ÷ 4 = 75 g, so 10 people need 10 × 75 = 750 g.
49	C	A quarter turn clockwise takes a point that is 3 right and 1 up to a point 1 right and 3 down, because the across step becomes a step down. So (3, 1) lands on (1, −3).
50	A	A side given as 8 cm to the nearest centimetre can be anything up to 8.5 cm, and a side given as 5 cm can be anything up to 5.5 cm. The area is largest when both sides are as long as they can be, and 8.5 × 5.5 = 46.75, so the largest possible area is 46.75 cm².

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