

Maths Mock Test Paper 11 Answers

Q#	Answer	Explanation
1	C	It is 15 minutes from 11:45 to 12:00, then another 20 minutes to 12:20. From 11:45 to 12:20 is 35 minutes.
2	E	Reflecting in the y-axis flips the point across to the other side, so the x-coordinate changes sign and the height stays the same. P is (3, 1), so its image is (-3, 1).
3	D	Halving one number while doubling the other leaves the answer unchanged, so 18×5 is the same as $9 \times 10 = 90$. Working it out directly, $18 \times 5 = 90$ as well.
4	C	From 13:20, adding 1 hour gives 14:20, and adding 50 more minutes gives 15:10.
5	E	Three oranges cost 120p, so one orange costs $120 \div 3 = 40$ p. Seven oranges then cost $7 \times 40 = 280$ p, which is £2.80.
6	C	There are $2 + 7 = 9$ parts, so one part is $£45 \div 9 = £5$. The smaller share is 2 parts, which is $2 \times £5 = £10$.
7	E	Read each bar and add them: $8 + 12 + 6 + 14 + 10 = 50$ books.
8	B	Three bottles hold $3 \times 750 = 2,250$ ml altogether. There are 1,000 ml in a litre, so 2,250 ml is 2.25 litres.
9	D	The first decimal digit is 9, which is 5 or more, so we round up. 9.9 rounded to the nearest whole number is 10.
10	E	Count up the number line from -6 to 0, which is 6 degrees, and then on from 0 up to 4, which is 4 degrees more. Altogether that is $6 + 4 = 10$ degrees.

11	B	To undo a machine, undo each step in the opposite order. The last thing done was adding 7, so the first thing to undo is subtracting 7; the first thing done was multiplying by 3, so the last thing to undo is dividing by 3. Starting with 4: $4 \times 3 = 12$ and $12 + 7 = 19$, then $19 - 7 = 12$ and $12 \div 3 = 4$.
12	D	Since $9 \times 9 = 81$, each side is 9 cm, so the perimeter is $4 \times 9 = 36$ cm.
13	E	The adverts run for 20 minutes, so the film starts at 20:00. Adding 1 hour takes it to 21:00 and another 55 minutes takes it to 21:55. From 20:00 to 21:55 is 115 minutes, which is 1 hour 55 minutes.
14	A	8,321 rounds down to 8,300 because the tens digit is less than 5.
15	D	Division is always done before subtraction, so $6 \div 2 = 3$ comes first and then $30 - 3 = 27$. Doing the subtraction first would give $24 \div 2 = 12$, which is a different answer, so the order really matters.
16	B	The table covers $10 + 6 + 4 + 8 + 5 + 7 = 40$ pupils, and the cycle column holds $6 + 5 = 11$ of them. The probability is 11 out of 40, which will not simplify.
17	C	Multiply by 1,000: $0.06 \times 1,000 = 60$ g.
18	D	To round to 2 decimal places, look at the 3rd decimal digit (5). Since $5 \geq 5$, we round up. $0.785 \rightarrow 0.79$ kg.
19	B	1 hour 30 minutes is 1.5 hours, so the speed is $45 \div 1.5 = 30$ km/h.
20	D	The ratio 1 : 6 splits the drink into $1 + 6 = 7$ equal parts, and 1 of those parts is squash. The fraction of the drink that is squash is therefore $1/7$. Sam has compared the squash with the water instead of with the whole drink.
21	B	A probability of 0.35 means 35 out of every 100 counters are red. Out of 20 counters that is $0.35 \times 20 = 7$, so the bag holds 7 red counters.
22	C	The four numbers total $4 \times 12 = 48$. The three given numbers total 35, so the fourth is $48 - 35 = 13$.

23	D	Go up from 25 on the miles axis to the line, then straight across. It meets the kilometre axis at the labelled 40.
24	B	The two marked angles are between the parallel lines on the same side of the slanted line, so they are co-interior and add up to 180° . That gives $x = 180^\circ - 108^\circ = 72^\circ$.
25	E	The rectangle has an area of $8 \times 3 = 24 \text{ cm}^2$, so the triangle has an area of 24 cm^2 as well. A triangle's area is half its base multiplied by its height, and half the base is $6 \div 2 = 3 \text{ cm}$, so the height is $24 \div 3 = 8 \text{ cm}$.
26	D	A quarter of 60 is $60 \div 4 = 15$, so three quarters is $3 \times 15 = 45$. Ten per cent of 80 is 8, so 60% is $6 \times 8 = 48$. The larger is 48, and it beats 45 by $48 - 45 = 3$.
27	A	In 7 nights he reads $7 \times 25 = 175$ minutes. Since $175 = 120 + 55$, that is 2 hours 55 minutes.
28	D	Rounding to 1 decimal place is decided by the second decimal digit. For 6.44, 6.351, 6.4049 and 6.3999 that digit sends each of them to 6.4. In 6.45 the second decimal digit is 5, so it rounds up to 6.5 instead.
29	C	The walk takes $12 \div 4 = 3$ hours, and 08:30 plus 3 hours is 11:30.
30	B	Speed is distance divided by time: $12 \div 3 = 4 \text{ km/h}$.
31	E	A number in both the 4 times table and the 9 times table must be in the times table of their lowest common multiple. Since 4 and 9 share no factor apart from 1, that is $4 \times 9 = 36$. The number 36 itself shows the others are not forced: it is not a multiple of 16, 27, 45 or 24.
32	B	Add in order: $-7 + 4 = -3$, then $-3 + (-5) = -8$.
33	A	Collect the x terms: $5x + 2x = 7x$. Then the y terms: $3y - y = 2y$, giving $7x + 2y$.
34	B	In 3,684 the 6 sits in the hundreds column, so it stands for 600. In 1,246 the 6 sits in the units column, so it stands for 6. Since $600 \div 6 = 100$, the first 6 is worth 100 times the second.

35	C	Work from left to right: $7 \times 6 = 42$, then $42 \div 2 = 21$.
36	B	The parts take 3 hours and 2 hours, so the journey is 240 km in 5 hours, giving $240 \div 5 = 48$ km/h.
37	A	Going from $\frac{3}{5}$ full to $\frac{4}{5}$ full is a rise of one fifth of the tank, and that one fifth is the 40 litres poured in. A full tank is five of those fifths, so it holds $5 \times 40 = 200$ litres.
38	C	The garden and path together measure 24 m by 19 m, an area of 456 m^2 . Taking away the garden's 300 m^2 leaves $456 - 300 = 156 \text{ m}^2$.
39	A	Doubling 3 gives 6 and $6 + 1 = 7$. The same rule works every time: $14 + 1 = 15$, then $30 + 1 = 31$, then $62 + 1 = 63$. The gaps between terms are 4, 8, 16 and 32, which keep growing, so no fixed number is being added.
40	C	Rising 11 degrees from -6°C gives 5°C at noon. Falling 4 degrees from 5°C gives 1°C in the evening.
41	A	A quarter of £1,200 is $1,200 \div 4 = 300$ pounds, so Monday brings in £300. Tuesday brings in half of that, which is $300 \div 2 = 150$ pounds.
42	E	The angles add up to 360° and there are $2 + 3 + 4 + 6 = 15$ parts, so one part is $360 \div 15 = 24^\circ$. The largest angle is $6 \times 24 = 144^\circ$.
43	A	Twelve packs hold $12 \times 8 = 96$ pencils, which is not quite enough, and thirteen packs hold $13 \times 8 = 104$. A pack cannot be split, so the answer has to be rounded up to 13 packs.
44	E	The events last 1 hour 25 minutes, 1 hour 30 minutes and 1 hour 40 minutes, which are 85, 90 and 100 minutes. Adding gives 275 minutes, and $275 \div 60 = 4$ remainder 35, so 4 hours 35 minutes.
45	D	The steepest section shows the biggest growth. From 2022 to 2023 the line rises from £340 to £470, a rise of $470 - 340 = 130$, which beats every other year's rise.
46	A	A day is 24 hours, so the pond loses $24 \times 250 = 6,000$ ml each day. Over 7 days that comes to $7 \times 6,000 = 42,000$ ml, and since 1 litre is 1,000 ml the loss is 42 litres.

47	C	$m \times n = -5 \times (-2) = 10$ because two negatives give a positive, and then $10 - 3 = 7$.
48	A	Dividing 4.8 by 100 moves every digit two places to the right, giving 0.048. Multiplying that by 10 moves every digit one place back to the left, giving 0.48. The two steps together are the same as dividing by 10.
49	C	The angles of a triangle add up to 180° , so $x + 2x + 3x = 180^\circ$. That gives $6x = 180^\circ$ and $x = 30^\circ$. The largest angle is $3x = 3 \times 30^\circ = 90^\circ$.
50	E	They cross where both rules give the same y . Trying $x = 3$ gives $3 \times 3 - 2 = 7$ for the first and $3 + 4 = 7$ for the second, so the crossing point is (3, 7).