11+ Practice Test Answers

11+ Maths Test 31

Question	Answer	Explanation	Marks
1	1.8 km	To find the distance between Alice and Bob, we need to subtract the distance Bob has cycled from the distance Alice has cycled. Alice's distance: 12.6 km Bob's distance: 10.8 km Distance between Alice and Bob = Alice's distance - Bob's distance = 12.6 km - 10.8 km = 1.8 km Therefore, after 45 minutes, Alice and Bob are 1.8 km apart.	1
2	east	Sarah starts facing north. She then does three 180° turns anticlockwise: - After the first 180° turn anticlockwise, she is facing south. - After the second 180° turn anticlockwise, she is facing north again. - After the third 180° turn anticlockwise, she is facing south once more. Finally, she does one 90° turn clockwise from facing south, which results in her facing east. Therefore, Sarah is now facing east.	1
3	Square-based pyramid	A cube has 6 square faces. A triangular prism has 2 triangular faces and 3 rectangular faces, making a total of 5 faces. A square-based pyramid has 1 square face and 4 triangular faces, making a total of 5 faces. An octahedron has 8 triangular faces. Therefore, the square-based pyramid has the fewest number of faces with 5.	1
4	30 cm, 40 cm	The length and width pair must be 30cm and 40cm. This can be proven because we know the diagonal of 50cm must satisfy the Pythagorean theorem where $l^2 + w^2 = 2\,500$ (from 50^2). The only reasonable whole number factors that satisfy this equation are 30 and 40, as $30^2 + 40^2 = 900 + 1\,600 = 2\,500$, and the square root of $2\,500 = 50$cm, confirming our diagonal length.	1
5	kilometres	When measuring long distances, such as a charity bike ride, the most appropriate unit of measurement is kilometres. Kilometres are a larger unit than millimetres, centimetres, or metres, making them more suitable for expressing longer distances. For example, if Amelia cycles a total of 100,000 metres, it would be more practical to express this as 100 kilometres. Therefore, kilometres would be the most sensible choice for measuring the total distance of Amelia's long-distance bike ride.	1

6	400	We know that 3 600 ÷ 18 = 200. This means that if we divide 3 600 by 18, we get 200. Now, let's look at the question: 7 200 ÷ 18. We can see that 7 200 is exactly double 3 600. If we double the number being divided (3 600), we must also double the result of the division (200). Therefore, 7 200 ÷ 18 must equal 400, which is double 200.	1
7	£4.10	To find out how much change Sarah will have, we need to: 1. Calculate the total cost of the jelly beans by multiplying the price per bag by the number of bags: £1.20 × 7 = £8.40 2. Subtract the total cost of the jelly beans from Sarah's budget: £12.50 - £8.40 = £4.10 Therefore, Sarah will have £4.10 change after buying the 7 bags of jelly beans.	1
8	40	To find the number of cookies that can be made, we need to divide the total amount of cookie dough by the amount used for each cookie. Total cookie dough: 3 600 g Dough used per cookie: 90 g Number of cookies = 3 600 g ÷ 90 g = 40 Therefore, the bakery can make a maximum of 40 cookies with the given batch of dough.	1
9	13.5 dozen	To find the total number of dozen cookies Sarah baked over the three days, we need to add the number of dozen cookies she baked each day: Monday: 3.25 dozen Tuesday: 5.5 dozen Wednesday: 4.75 dozen 3.25 + 5.5 + 4.75 = 13.5 Therefore, Sarah baked a total of 13.5 dozen cookies over the three days.	1
10	4 units east and 4 units north	The ship's initial coordinates are (7, -12), and its final coordinates are (11, -8). To determine the ship's movement, we need to calculate the change in each coordinate. Change in x-coordinate: 11 - 7 = 4 Change in y-coordinate: -8 - (-12) = 4 The ship moved 4 units in the positive x-direction (east) and 4 units in the positive y-direction (north). Therefore, the correct answer is "4 units east and 4 units north".	1