

11+ Practice Test Answers

11+ Maths Test 28

Question	Answer	Explanation	Marks
1	1.8 kg	<p>To find the weight of Liam's rucksack, we need to subtract the weight of the sleeping bag from the total weight of the rucksack and sleeping bag combined.</p> <p>Total weight = 3.2 kg Sleeping bag weight = 1.4 kg</p> <p>Rucksack weight = Total weight - Sleeping bag weight Rucksack weight = 3.2 kg - 1.4 kg Rucksack weight = 1.8 kg</p> <p>Therefore, Liam's rucksack weighs 1.8 kg.</p>	1
2	400 ml	<p>To find out how many millilitres of orange juice each glass contains, we need to divide the total volume of the juice by the number of glasses.</p> <p>1 litre = 1 000 millilitres 2 litres = $2 \times 1\,000\text{ ml} = 2\,000\text{ ml}$ $2\,000\text{ ml} \div 5 = 400\text{ ml}$</p> <p>Therefore, each glass contains 400 ml of orange juice.</p>	1
3	5	<p>To find the age of the new child, we need to calculate the total age of all five children and then subtract the sum of the ages of the four older children.</p> <p>The mean age of all five children is 10 years old. To find the total age, multiply the mean by the number of children:</p> $10 \times 5 = 50$ <p>The total age of all five children is 50 years.</p> <p>Now, add up the ages of the four older children:</p> $12 + 8 + 15 + 10 = 45$ <p>The total age of the four older children is 45 years.</p> <p>To find the age of the new child, subtract the total age of the older children from the total age of all five children:</p> $50 - 45 = 5$ <p>Therefore, the new child is 5 years old.</p>	1
4	11	<p>To determine which option could not be the number of friends, we need to consider the divisibility of the total bill (£84) by each option.</p> <p>If there were 3 friends, each would pay: $\text{£}84 \div 3 = \text{£}28$. This is possible.</p> <p>If there were 4 friends, each would pay: $\text{£}84 \div 4 = \text{£}21$. This is also possible.</p> <p>If there were 6 friends, each would pay: $\text{£}84 \div 6 = \text{£}14$. This is also possible.</p> <p>However, if there were 11 friends, each would pay: $\text{£}84 \div 11 = \text{£}7\text{ remainder }7$. This is not possible, as the bill cannot be split equally between 11 people.</p> <p>Therefore, the option that could not be the number of friends in the group is 11.</p>	1

5	obtuse	<p>In a triangle, the sum of all three angles is always 180°.</p> <p>If one of the angles is 110°, which is greater than 90°, then the triangle must be obtuse.</p> <p>An acute triangle has all angles less than 90°, a right-angled triangle has one 90° angle, and an equilateral triangle has three equal angles, each measuring 60°.</p> <p>Therefore, the correct answer is that the triangle is obtuse.</p>	1
6	2.7 metres	<p>The diameter of a circle is twice the length of its radius.</p> <p>Given:</p> <ul style="list-style-type: none"> - The radius of the trampoline is 1.35 metres. <p>To find the diameter, we multiply the radius by 2:</p> <p>Diameter = $2 \times$ radius</p> <p>Diameter = 2×1.35 metres</p> <p>Diameter = 2.7 metres</p> <p>Therefore, the diameter of the circular trampoline is 2.7 metres.</p>	1
7	1800	<p>To find the amount of flour needed for 120 cupcakes, we need to scale up the original recipe proportionally.</p> <p>The original recipe makes 12 cupcakes with 180g of flour. We want to make 120 cupcakes, which is 10 times the original amount ($120 \div 12 = 10$).</p> <p>Therefore, we need to multiply the amount of flour by 10 as well:</p> <p>$180\text{g} \times 10 = 1800\text{g}$</p> <p>So, to make 120 cupcakes using the same recipe, we would need 1800 grams of flour.</p>	1
8	£783	<p>To calculate the total cost for the group of friends, we need to multiply the cost of a single ticket by the number of friends travelling.</p> <p>Single ticket cost: £87 Number of friends: 9</p> <p>Total cost = $\text{£}87 \times 9 = \text{£}783$</p> <p>Therefore, the correct answer is £783.</p>	1
9	$12b \div 3$	<p>The correct answer is $12b \div 3 = 4b$ because we know the bakery produces $12b$ rolls in total, and we need to find one-third of this total to represent the combined number of seeded and sourdough rolls.</p> <p>$3(2b) = 6b$ represents half the total production which is too much, while $12b \div 4 = 3b$ calculates a quarter of the total which is too little. $2(2b)^2 = 4b^2$ gives us one-third of the total production squared, which is also too much.</p>	1

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Regular pentagon

The correct answer is a regular pentagon.

A regular pentagon is a five-sided polygon where all sides are equal in length and all angles are equal in measure.

Since Samantha stated that the shape has no right angles (90°), we can eliminate any shapes with right angles, such as the rhombus and the isosceles trapezium.

Additionally, she mentioned that all sides are the same length, which eliminates the scalene triangle, as it has sides of different lengths.

Therefore, the only shape that satisfies both conditions - no right angles and all sides of equal length - is the regular pentagon.

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