

# 11+ Practice Test Answers

## 11+ Maths Test 45

Question	Answer	Explanation	Marks
1	13	<p>First, convert the maximum weight Liam can send from kilograms to grams:</p> $0.15 \text{ kg} = 150 \text{ g}$ <p>The envelope weighs 20 g, so the remaining weight for postcards is:</p> $150 \text{ g} - 20 \text{ g} = 130 \text{ g}$ <p>Each postcard weighs 10 g, so to find the maximum number of postcards Liam can send, divide the remaining weight by the weight of each postcard:</p> $130 \text{ g} \div 10 \text{ g} = 13$ <p>Therefore, the maximum number of postcards Liam can send in one envelope is 13.</p>	1
2	1.07 kg	<p>To find the weight of the apples, we need to subtract the weight of the remaining fruit from the total weight of the mixed fruit bag.</p> <p>Total weight of mixed fruit bag: 2.75 kg Weight of remaining fruit after removing apples: 1.68 kg</p> $\text{Weight of apples} = 2.75 \text{ kg} - 1.68 \text{ kg} = 1.07 \text{ kg}$ <p>Therefore, the apples weigh 1.07 kg.</p>	1
3	obtuse	<p>An acute angle is less than <math>90^\circ</math>.</p> <p>An obtuse angle is greater than <math>90^\circ</math> but less than <math>180^\circ</math>.</p> <p>A right angle is exactly <math>90^\circ</math>.</p> <p>A reflex angle is greater than <math>180^\circ</math> but less than <math>360^\circ</math>.</p> <p>Since the angle Sarah measured is <math>168^\circ</math>, which is greater than <math>90^\circ</math> but less than <math>180^\circ</math>, it is an obtuse angle.</p>	1
4	15	<p>To find out how many chocolate buttons Samantha needs, we need to calculate how many <math>24^\circ</math> angles make up a full circle (<math>360^\circ</math>).</p> <p>We can do this by dividing <math>360^\circ</math> by <math>24^\circ</math>:</p> $360^\circ \div 24^\circ = 15$ <p>Therefore, Samantha will need 15 chocolate buttons to cover the entire edge of the circular cake.</p>	1

5	£28.65	<p>To find out how much change Sarah will receive, we need to:</p> <ol style="list-style-type: none"> <li>1. Add the cost of the paints and canvas together to get the total spent.</li> <li>2. Subtract the total spent from the amount Sarah handed to the cashier.</li> </ol> <p>Paints cost: £8.75  Canvas cost: £12.60  Total spent: £8.75 + £12.60 = £21.35</p> <p>Amount handed to the cashier: £50.00  Change received: £50.00 - £21.35 = £28.65</p> <p>Therefore, Sarah will receive £28.65 in change.</p>	1
6	96	<p>To find the total number of items, we need to substitute the given values into the formula:</p> $i = 2h + 5b$ $i = 2(18) + 5(12)$ <p>First, let's calculate <math>2(18)</math>:  <math>2(18) = 36</math></p> <p>Next, let's calculate <math>5(12)</math>:  <math>5(12) = 60</math></p> <p>Now, we add the results together:  <math>i = 36 + 60</math>  <math>i = 96</math></p> <p>Therefore, Sarah will have a total of 96 items (party hats and balloons) for Emma's birthday party.</p>	1
7	15 424.28	<p>To find the total amount allocated, we need to multiply the number of students by the amount allocated per student.</p> <p>Number of students: 1,248  Amount per student: £12.36</p> $1,248 \times 12.36 = 15,424.28$ <p>The calculation can be broken down as follows:  <math>1,248 \times 12.36</math>  <math>= (1,248 \times 12) + (1,248 \times 0.36)</math>  <math>= 14,976 + 448.28</math>  <math>= 15,424.28</math></p> <p>Therefore, the total amount allocated is £15,424.28.</p>	1
8	(1, 1)	<p>The hiker's initial position is at coordinates (3, 4).</p> <p>Moving 3 units south means subtracting 3 from the y-coordinate: <math>(3, 4 - 3) = (3, 1)</math>.</p> <p>Then, moving 2 units west means subtracting 2 from the x-coordinate: <math>(3 - 2, 1) = (1, 1)</math>.</p> <p>Therefore, the hiker's new position is at coordinates (1, 1).</p>	1

9	6,000 kg	<p>The correct answer is 6,000 kg.</p> <p>Adult male African elephants typically weigh between 4,000 to 7,000 kg, with an average weight of around 6,000 kg.</p> <p>6,000 g is far too light, as it is equal to only 6 kg, which is the weight of a small dog.</p> <p>600 kg is also too light for an adult male African elephant, as it is closer to the weight of a small cow.</p> <p>60,000 kg is far too heavy, as it is equivalent to the weight of about 10 adult male African elephants combined.</p> <p>Therefore, 6,000 kg is the most probable weight of an adult male African elephant.</p>	1
10	3 hours	<p>To find the missing value for Sunday, we need to use the formula for the mean:</p> <p>Mean = (Sum of all values) ÷ (Number of values)</p> <p>We know that the mean is 3 hours per day for the whole week (7 days).</p> <p>Let's call the missing value for Sunday 'x'.</p> $3 = (2 + 3 + 4 + 1 + 5 + 3 + x) \div 7$ $21 = 18 + x$ $x = 21 - 18$ $x = 3$ <p>Therefore, Amelia must have studied for 3 hours on Sunday to maintain a mean of 3 hours per day for the week.</p>	1