11+ Practice Test Answers

11+ Maths Test 52

Question	Answer	Explanation	Marks
1	Irregular quadrilateral	In a quadrilateral, the sum of all four angles is always 360°. Given that two angles measure 110° and 130°, we can calculate the sum of the remaining two angles: 110° + 130° = 240° 360° - 240° = 120° The remaining two angles must sum to 120°, but we don't have enough information to determine their individual measures. Since the given angles are different and we can't determine if the remaining angles are equal or if any sides are parallel, this quadrilateral is an irregular quadrilateral.	1
2	4:37 pm	To find the arrival time, we need to add the journey duration to the departure time. The train departs at 3:25 pm and the journey takes 1 hour and 12 minutes. First, let's add 1 hour to 3:25 pm: 3:25 pm + 1 hour = 4:25 pm Now, we need to add 12 minutes to 4:25 pm: 4:25 pm + 12 minutes = 4:37 pm Therefore, the train is expected to arrive at its destination at 4:37 pm.	1
3	2 700 kg	To convert tonnes to kilograms, we need to multiply the number of tonnes by 1 000 because 1 tonne is equal to 1 000 kilograms. 2.7 tonnes = 2.7 × 1 000 kg = 2 700 kg Therefore, the blue whale's tongue weighs 2 700 kilograms.	1
4	13	To find the number of chocolate cakes Amelia baked, we need to use the given equation and the information provided. The equation is: $M = 2c + 3v$, where M is the total amount raised, c is the number of chocolate cakes, and v is the number of vanilla cakes. We know that Amelia raised a total of £47 and baked 7 vanilla cakes. Let's substitute these values into the equation: $47 = 2c + 3(7)$ $47 = 2c + 21$ $47 - 21 = 2c$ $26 = 2c$ $c = 26 \div 2$ $c = 13$ Therefore, Amelia baked 13 chocolate cakes.	1

5	138g	To calculate the mean weight of the apples, we need to: 1. Add up all the weights: 120g + 135g + 140g + 145g + 150g = 690g 2. Divide the total weight by the number of apples: 690g ÷ 5 = 138g Therefore, the mean weight of the five apples is 138g.	**1**
6	The combined length of string q and string r is greater than 10 cm.	In a straight line, the sum of the lengths of the three strings must equal the total length of the line. If string *p* is less than 10 cm, then the remaining length of the line must be greater than 10 cm, as the total length of the line is greater than the length of string *p*. Therefore, the combined length of string *q* and string *r* must be greater than 10 cm to make up the remaining length of the line. The other statements cannot be determined with certainty based on the given information.	**1**
7	750 ml	To convert litres to millilitres, we need to multiply the number of litres by 1 000 because there are 1 000 millilitres in 1 litre. 0.75 litres = 0.75 × 1 000 millilitres 0.75 × 1 000 = 750 millilitres Therefore, the recipe requires 750 millilitres of milk to make the chocolate chip cookies.	**1**
8	20 cm	To solve this, let's say the width is w centimetres. Then the length is 4w and the height is 2w. Since volume is length × width × height, we can write 4w × w × 2w = 64,000 (converting 64 litres to cubic centimetres), which simplifies to $8w^3 = 64,000$. Therefore, $w^3 = 8,000$, and since 20 × 20 × 20 = 8,000, the width must be 20 centimetres. We can verify this because with width = 20cm, length = 80cm (4 × 20), and height = 40cm (2 × 20), the volume would be 64,000 cubic centimetres or 64 litres.	**1**
9	xy – 7	To determine which expression could be Amelia's, we need to substitute the given values of *x* and *y* into each expression and check which one equals 21. Let's start with the first option: $xy - 7$ $4 \times 7 - 7 = 28 - 7 = 21$ This is equal to 21, so it could be Amelia's expression. The second option: $(x \div 2) \times y$ $(4 \div 2) \times 7 = 2 \times 7 = 14$ This is not equal to 21, so it's not the correct answer. The third option: $3x + y$ $3(4) + 7 = 12 + 7 = 19$ This is not equal to 21, so it's not the correct answer. The fourth option: $y^2 - x^2$ $7^2 - 4^2 = 49 - 16 = 33$ This is not equal to 21, so it's not the correct answer. Therefore, the expression that could be Amelia's is $xy - 7$.	**1**

10	1 hour and 43 minutes	To find the total duration of the play, we need to add the length of the play and the durations of both intervals. The play is scheduled to last for 95 minutes. The first interval is 4 minutes and 30 seconds long. To convert this to minutes, we calculate: 4 + (30 ÷ 60) = 4.5 minutes. The second interval is 3 minutes and 45 seconds long. To convert this to minutes, we calculate: 3 + (45 ÷ 60) = 3.75 minutes. Now, we add the duration of the play and both intervals: 95 + 4.5 + 3.75 = 103.25 minutes. To convert 103.25 minutes to hours and minutes, we divide by 60: 103.25 ÷ 60 = 1.72 083... hours. 0.72 083... hours is equal to 0.72 083... × 60 = 43.25 minutes. Therefore, the total duration of the play, including both intervals, is 1 hour and 43 minutes.	**1**