11+ Practice Test Answers

11+ Maths Test 18

Question	Answer	Explanation	Marks
1	£30	To find the cost per friend, we need to substitute the number of friends (f) into the given formula: $C = (120 \div f) + 15$ With 8 friends, the formula becomes: $C = (120 \div 8) + 15$ First, we divide 120 by 8: $120 \div 8 = 15$ Then, we add 15 to the result: $15 + 15 = 30$ Therefore, if 8 friends decide to rent the bouncy castle, each friend will need to pay £30.	1
2	55	To find the area of the rectangle, we need to multiply its length by its width. The length is given as $2x + 3$, and we are told that $x = 4$. Let's substitute this value into the expression: Length = 2(4) + 3 Length = 8 + 3 Length = 11 Now that we have the length, we can multiply it by the width, which is 5: Area = Length × Width Area = 11 × 5 Area = 55 Therefore, when $x = 4$, the area of the rectangle is 55 square units.	1
3	$5\,000 = 2a + 5b$	To find the correct equation, we need to consider the total volume of lemonade and how it is distributed among the glasses. Mr Johnson has a total of 5 litres of lemonade, which is equal to 5 000 ml (since 1 litre = 1 000 ml). He pours the lemonade into two glasses that each hold a ml, so the total volume in these two glasses is $2a$ ml. He also pours the lemonade into five glasses that each hold b ml, so the total volume in these five glasses is $5b$ ml. Since he completely fills the glasses and there is no lemonade left over, the total volume of lemonade (5 000 ml) must be equal to the sum of the volumes in the two types of glasses ($2a$ ml + $5b$ ml). Therefore, the correct equation is: $5\,000 = 2a + 5b$.	1

4	£50	To find the cost per person, we need to substitute the number of attendees (n) into the given formula: $C = (500 \div n) + 25$ With 20 people attending, the calculation becomes: $C = (500 \div 20) + 25$ $C = 25 + 25$ $C = £50$ Therefore, if 20 people attend the charity dinner, each person will need to pay £50.	1
5	10 balloons and 10 party hats	To solve this problem, we need to find a combination of balloons and party hats that totals exactly £20. Let's try each option: 1. 10 balloons and 10 party hats: $120 \times 10 + 80 \times 10 = 1\,200 + 800 = 2\,000$. This combination is exactly £20 (2000p). 2. 5 balloons and 8 party hats: $120 \times 5 + 80 \times 8 = 600 + 640 = 1\,240$. This combination is under £20 (2000p). 3. 5 balloons and 20 party hats: $120 \times 5 + 80 \times 20 = 600 + 1\,600 = 2\,200$. This combination exceeds £20 (2000p). 4. 20 balloons and no party hats: $120 \times 20 + 80 \times 0 = 2\,400 + 0 = 2\,400$ - This combination exceeds £20 (2000p). Therefore, the correct answer is 10 balloons and 10 party hats, as this is the only combination that satisfies the equation and totals exactly £20 (2000p).	1
6	£75	To find the total cost of one crate of cupcakes, we need to: 1. Calculate the number of cupcakes in one crate. 2. Multiply the number of cupcakes by the cost per cupcake. There are 20 cupcakes in each box, and 5 boxes in each crate. So, the number of cupcakes in one crate is: $20 \times 5 = 100$ cupcakes. Each cupcake costs £0.75. Therefore, the total cost of one crate is: $100 \times £0.75 = £75$.	1
7	Square	The shape Sarah is thinking of is a square. A square is a regular polygon, meaning all sides are equal in length and all angles are equal in measure. A square has four equal sides and four equal angles, each measuring 90 degrees. A rhombus, while having four equal sides, does not necessarily have four equal angles. A rectangle has four equal angles but not four equal sides. A parallelogram has opposite sides equal and parallel, but adjacent sides are not equal, and angles are not all equal.	1

8	208	To find the number of empty passenger slots, we need to subtract the number of passengers on board from the total passenger capacity of the ship.

Total passenger capacity: 3,827

Passengers on board: 3,619

Empty passenger slots = 3,827 - 3,619 = 208

Therefore, there were 208 empty passenger slots on the cruise ship during the recent voyage. | 1 |
| 9 | (1, 2) | To find the starting coordinates, we need to work backwards from the ending point.

The car moved 4 metres forward, which is equivalent to +4 on the y-axis.

It also moved 3 metres to the left, which is equivalent to -3 on the x-axis.

The car finished at the point (-2, 6).

To find the starting x-coordinate, we subtract the horizontal movement from the final x-coordinate: -2 - (-3) = -2 + 3 = 1

To find the starting y-coordinate, we subtract the vertical movement from the final y-coordinate: 6 - 4 = 2

Therefore, the starting coordinates of the car were (1, 2). | 1 |
| 10 | 45 minutes | To find the total time Liam and Olivia spent baking cookies, we need to add the time each of them spent baking their individual batches.

Liam baked his batch of 24 cookies in 18 minutes, and Olivia baked her batch of 36 cookies in 27 minutes.

18 minutes + 27 minutes = 45 minutes

Therefore, Liam and Olivia took a total of 45 minutes to bake both batches of cookies for the school fundraiser. | 1 |