11+ Practice Test Answers

11+ Maths Test 4

Question	Answer	Explanation	Marks
1	£5.40	The taxi fare formula is given as $F = 300 + 20d$, where F is the fare in pence and d is the distance travelled in kilometres. Sarah's journey is 12 kilometres, so we substitute $d = 12$ into the formula: $F = 300 + 20 \times 12$ $F = 300 + 240$ $F = 540$ pence To convert pence to pounds, we divide by 100: 540 ÷ 100 = £5.40 Therefore, Sarah's taxi journey costs £5.40.	1
2	((e × 2) + 4) ÷ 3	To find the correct expression, we need to follow the order of operations given in the question: 1. Multiply the number of eggs (e) by 2: $e \times 2$ 2. Add 4 to the result: $(e \times 2) + 4$ 3. Divide the result by 3: $((e \times 2) + 4) \div 3$ Therefore, the correct expression is ((e × 2) + 4) ÷ 3.	1
3	184.5 cm	To find the total length of the line of model cars, we need to multiply the number of cars by the length of each car. Number of model cars: 15 Length of each model car: 12.3 cm Total length = 15 × 12.3 cm = 184.5 cm Therefore, the total length of the line of model cars is 184.5 cm.	1
4	1 250 g	To convert kilograms to grams, we need to multiply the number of kilograms by 1 000. 1 kg = 1 000 g 1.25 kg = 1.25 × 1 000 g = 1 250 g Therefore, 1.25 kg of flour is equal to 1 250 grams.	1

5	25 + 2k	To calculate the total time for Liam's charity bike ride, we need to add the time taken for each part of the journey: 1. Cycling to the starting point: 15 minutes 2. Cycling during the event: 2 minutes for every kilometre cycled (2k minutes, where k is the number of kilometres) 3. Cycling back home after the ride: 10 minutes Therefore, the total time can be expressed as: Total time = Time to starting point + Time during event + Time back home Total time = 15 + 2k + 10 Simplifying the expression, we get: Total time = 25 + 2k So, the correct answer is '25 + 2k'.	**1**
6	16	Let the width of the rectangle be w metres and the length be l metres. We know that the perimeter of a rectangle is given by the formula: 2(l + w) = 60 Since the length and width are whole numbers, we can find the possible values of w by substituting values for l. If l = 15, then 2(15 + w) = 60 ⇒ 30 + 2w = 60 ⇒ 2w = 30 ⇒ w = 15 If l = 14, then 2(14 + w) = 60 ⇒ 28 + 2w = 60 ⇒ 2w = 32 ⇒ w = 16 If l = 13, then 2(13 + w) = 60 ⇒ 26 + 2w = 60 ⇒ 2w = 34 ⇒ w = 17 If l = 12, then 2(12 + w) = 60 ⇒ 24 + 2w = 60 ⇒ 2w = 36 ⇒ w = 18 Therefore, the possible whole number values for the width are 15, 16, 17, and 18. The value 14 is not a possible width.	**1**
7	18 × 576 + 576 = 10 368	To find the total number of cupcakes produced in 18 days, we need to multiply the daily production by the number of days: 576 × 18 = 10 368 cupcakes Now, let's check each calculation: 1. 10 944 ÷ 18 = 608; 576 × 18 = 10 368 (Incorrect) 2. 18 × 576 + 576 = 10 944 (Incorrect); 3. 18 × 576 + 576 = 10 944 (Correct) 4. 576 × 16 + 576 = 9 792 (Incorrect) Therefore, only the third calculation (18 × 576 + 576 = 10 368) is correct.	**1**
8	4.455 litres	To find the volume of water added, we need to subtract the volume of chemical A from the total volume of the solution. Volume of chemical A = 0.045 litres Total volume of the solution = 4.5 litres Volume of water = Total volume - Volume of chemical A Volume of water = 4.5 - 0.045 Volume of water = 4.455 litres Therefore, 4.455 litres of water was added to create the solution.	**1**

9	28	To calculate the minimum number of litres of petrol Amir needs, we first need to find out how many litres his car consumes for the given distance. Amir's car consumes 6.2 litres per 100 km. For 450 km, the calculation would be: 6.2 litres × (450 km ÷ 100 km) = 6.2 litres × 4.5 = 27.9 litres Since Amir can only buy whole litres of petrol, he should purchase at least 28 litres to ensure he has enough fuel for his 450 km road trip.	**1**
10	£21	To find the cost of the journey, we need to substitute the distance travelled, d, into the formula: $F = 3 + 1.5d$ Given: d = 12 kilometres Substituting the value of d into the formula: $F = 3 + 1.5 \times 12$ $F = 3 + 18$ $F =$ £21 Therefore, the passenger would pay £21 for a 12 kilometre journey.	**1**