11+ Practice Test Answers

11+ Maths Test 3

Question	Answer	Explanation	Marks
1	4ab	To determine which expression could be Amelia's, we need to substitute the given values for *a* and *b* into each option and check which one results in 40. Option 1: 4*ab* 4 × 5 × 2 = 40 This option works, so it could be Amelia's expression. Option 2: 8*a* + 4*b* 8 × 5 + 4 × 2 = 40 + 8 = 48 This option does not result in 40, so it cannot be Amelia's expression. Option 3: *b*^2 + 18 2^2 + 18 = 4 + 18 = 22 This option does not result in 40, so it cannot be Amelia's expression. Option 4: *a*^2 - *ab* 5^2 - 5 × 2 = 25 - 10 = 15 This option does not result in 40, so it cannot be Amelia's expression. Therefore, the only expression that could be Amelia's is Option 1: 4*ab*.	1
2	(*a* + 2, −*b* − 5)	To find the coordinates of the point after the transformations, we need to apply the transformations in the correct order. First, the shape is reflected in the *x*-axis. This changes the *y*-coordinate from *b* to −*b*, while the *x*-coordinate remains the same. After reflection, the point has coordinates (*a*, −*b*). Next, the shape is translated two units to the right and five units down. To translate a point, we add the translation vector to its coordinates. The translation vector is (2, −5), so we add 2 to the *x*-coordinate and −5 to the *y*-coordinate: (*a*, −*b*) + (2, −5) = (*a* + 2, −*b* − 5) Therefore, the coordinates of the corresponding point after the transformations are (*a* + 2, −*b* − 5).	1
3	25	To find the total amount of flour needed, we need to multiply the amount of flour per cupcake by the total number of cupcakes being made. Amount of flour per cupcake: 0.125 kg Number of cupcakes: 200 0.125 kg × 200 = 25 kg To calculate this, we can multiply 0.125 by 100 to get 12.5, and then multiply that by 2 to get 25. Therefore, the bakery will need 25 kg of flour in total to make the 200 cupcakes for the school fundraiser.	1

4	1 000	To find out how many times the chemical was diluted, we need to divide the total volume of the solution by the volume of the chemical used. Total volume of the solution: 7.5 litres Volume of the chemical used: 0.75 litres Dilution factor = 7.5 ÷ 0.75 = 7.5 ÷ (7.5 ÷ 1 000) = 7.5 × (1 000 ÷ 7.5) = 7.5 × 133.33 = 1 000 Therefore, the chemical was diluted 1 000 times to create the solution.	**1**
5	£107.46	To find out how much money Sarah has left, we need to subtract her total spending from her initial savings. Sarah's total spending: £37.99 (trainers) + £22.50 (top) + £15.80 (book) = £76.29 Now, let's subtract this from her initial savings: £183.75 (initial savings) - £76.29 (total spending) = £107.46 Therefore, after her shopping spree, Sarah has £107.46 remaining.	**1**
6	£2 890	Amir donated £57.80 to his local football club. The club raised 50 times this amount. To calculate the total amount raised, we need to multiply Amir's donation by 50: £57.80 × 50 = £2,890 Therefore, the total amount raised by Amir's football club is £2,890.	**1**
7	2 400	To find the maximum number of cars that could be produced by the company in a day, we need to follow these steps: 1. Calculate the number of cars produced by one factory in a day: 24 cars per day × 20 production lines = 480 cars per factory per day 2. Calculate the total number of cars produced by all 5 factories in a day: 480 cars per factory per day × 5 factories = 2 400 cars per day Therefore, the maximum number of cars that could be produced by the company in a day is 2 400.	**1**
8	175	To find the number of students in Year 9, we need to subtract the number of students in Year 7 and Year 8 from the total number of students in the school. Total students: 525 Year 7 students: 185 Year 8 students: 165 525 - (185 + 165) = 525 - 350 = 175 Therefore, there are 175 students in Year 9.	**1**

9	£17	To find out how much money Amelia currently has saved, we need to solve the equation: $5(x + 23) = 200$ First, divide both sides by 5: $(x + 23) = 200 \div 5$ $(x + 23) = 40$ Now, subtract 23 from both sides: $x = 40 - 23$ $x = 17$ Therefore, Amelia currently has £17 saved.	1
10	11:09 am	To find out when the chef leaves to deliver the meal, we need to add up the time spent on each task: 1. Chopping vegetables: 24 minutes 2. Cooking the main dish: 48 minutes 3. Break: 12 minutes 4. Preparing the dessert: 30 minutes Total time = 24 + 48 + 12 + 30 = 114 minutes Now, we need to add this total time to the starting time of 9:15 am. 114 minutes = 1 hour and 54 minutes 9:15 am + 1 hour = 10:15 am 10:15 am + 54 minutes = 11:09 am Therefore, the chef leaves to deliver the meal at 11:09 am.	1