# 11+ Practice Test Answers

## 11+ Maths Test 34

| Question | Answer | Explanation | Marks |
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| 1 | 12 $m^3$ | To find the volume of topsoil needed, we first need to calculate the area of the allotment:<br><br>Area = length × width<br>Area = 15 m × 8 m = 120 $m^2$<br><br>Now, we can calculate the volume of topsoil needed by multiplying the area by the desired depth. Remember that the depth needs to be converted from centimetres to metres:<br><br>Depth = 10 cm = 0.1 m<br><br>Volume = area × depth<br>Volume = 120 $m^2$ × 0.1 m = 12 $m^3$<br><br>Therefore, the allotment owners actually need 12 $m^3$ of topsoil to cover the allotment to the desired depth of 10 cm. | 1 |
| 2 | £23.50 | To calculate the total fare for Emily's journey, we need to substitute the number of miles travelled (M) into the given formula:<br><br>F = 2.5M + 3.5<br><br>Emily travelled 8 miles, so M = 8.<br><br>Substituting M with 8 in the formula:<br><br>F = 2.5 × 8 + 3.5<br><br>F = 20 + 3.5<br><br>F = 23.5<br><br>Therefore, Emily's total fare for the 8-mile journey will be £23.50. | 1 |
| 3 | 12:42 pm | To find out when the train will be three-fifths of the way to Edinburgh, we need to calculate the total journey time and then find three-fifths of that time.<br><br>The train departs at 10:30 am and the journey takes 4 hours and 20 minutes.<br><br>4 hours and 20 minutes = 4 × 60 minutes + 20 minutes = 240 minutes + 20 minutes = 260 minutes<br><br>Three-fifths of the journey time: 3/5 × 260 minutes = 156 minutes<br><br>156 minutes = 2 hours and 36 minutes<br><br>So, the train will be three-fifths of the way to Edinburgh 2 hours and 36 minutes after departing London.<br><br>Departure time: 10:30 am<br>Time elapsed: 2 hours and 36 minutes<br>10:30 am + 2 hours and 36 minutes = 12:42 pm<br><br>Therefore, the train will be three-fifths of the way to Edinburgh at 12:42 pm. | 1 |

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| **4** | 5.68 metres | To find the total length of the two pieces of wood, we need to add their individual lengths together:<br><br>3.27 metres + 2.41 metres<br><br>First, line up the decimal points:<br><br>3.27<br>+2.41<br><br>Then, add each column, starting from the right:<br><br>3.27<br>+2.41<br>5.68<br><br>Therefore, the total length of the two pieces of wood when placed end-to-end is 5.68 metres. | **1** |
| **5** | 42 | To determine the number of cheese slices needed, we first need to calculate the maximum number of sandwiches Amelia can make with the given number of bread slices.<br><br>Each sandwich requires 2 slices of bread, so the number of sandwiches that can be made is equal to the total number of bread slices divided by 2.<br><br>84 bread slices ÷ 2 = 42 sandwiches<br><br>Since each sandwich also requires 1 slice of cheese, the number of cheese slices needed is equal to the number of sandwiches that can be made.<br><br>Therefore, Amelia needs 42 slices of cheese to make as many sandwiches as possible with the given number of bread slices. | **1** |
| **6** | (−4, 12) | The ship starts at coordinates (2, 5).<br><br>Moving 7 units north means adding 7 to the y-coordinate: (2, 5 + 7) = (2, 12).<br><br>Then, moving 6 units to the west means subtracting 6 from the x-coordinate: (2 - 6, 12) = (−4, 12).<br><br>Therefore, the new coordinates of the ship after the movement are (−4, 12). | **1** |
| **7** | 5 600 ÷ 1 000 | To rewrite the multiplication 0.56 × 100 as a division, we need to understand the relationship between multiplication and division.<br><br>In this case, multiplying by 100 is the same as dividing by its reciprocal, which is 1/100 or 0.01.<br><br>0.56 × 100 = 0.56 ÷ 0.01<br><br>To remove the decimal points, we can multiply both the numerator and denominator by 10 000:<br><br>(0.56 × 10 000) ÷ (0.01 × 10 000) = 5 600 ÷ 1 000<br><br>Therefore, the calculation 0.56 × 100 is equivalent to 5 600 ÷ 1 000. | **1** |

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| **8** | £62 | To calculate the total callout charge, we need to substitute the number of minutes ($m$) into the formula provided:<br>$P = 50 + 0.5m$<br>We know the plumber was at the property for 24 minutes, so $m = 24$.<br>Substituting this value into the formula:<br>$P = 50 + 0.5 \times 24$<br>$P = 50 + 12$<br>$P = 62$<br>Therefore, the total callout charge for the plumber being at the property for 24 minutes would be £62. | **1** |
| **9** | £12.50 | To find the average (mean) amount of money saved, we need to add up all the amounts and divide by the number of friends.<br>£12 + £15 + £9 + £14 = £50<br>There are 4 friends in total, so we divide the total by 4:<br>£50 ÷ 4 = £12.50<br>Therefore, the average amount of money saved by the friends is £12.50. | **1** |
| **10** | 3 000 | To find the number of students in Year 9, we need to follow these steps:<br>1. Calculate the number of students in Year 8 (half of Year 7):<br>Year 8 students = 1 200 ÷ 2 = 600<br>2. Calculate the number of students in Year 9 (5 times more than Year 8):<br>Year 9 students = 600 × 5 = 3 000<br>Therefore, there are 3 000 students in Year 9. | **1** |