# 11+ Practice Test Answers

## 11+ Maths Test 47

| Question | Answer | Explanation | Marks |
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| 1 | 0.84 m | To find the minimum length of the bookshelf, we need to multiply the number of books by the space each book takes up:<br><br>24 books × 3.5 cm per book = 84 cm<br><br>Since the question asks for the length in metres, we need to convert centimetres to metres:<br><br>84 cm ÷ 100 = 0.84 m<br><br>Therefore, the minimum length the bookshelf needs to be to fit all of James's books is 0.84 m. | 1 |
| 2 | 16 | To find the number of lengths Sarah swam, we need to divide the total distance she swam by the length of the pool.<br><br>The pool is 50 metres long, and Sarah swam a total of 800 metres.<br><br>800 metres ÷ 50 metres per length = 16 lengths<br><br>Therefore, Sarah swam 16 lengths of the pool. | 1 |
| 3 | 844 | First, we need to calculate how many students are in the junior school by finding one third of 1 266: 1 266 ÷ 3 = 422 students. Since this is the junior school number, we can subtract it from the total to find the senior school number.<br><br>Therefore, there are 1 266 - 422 = 844 students in the senior school. | 1 |
| 4 | Irregular pentagon | To determine the shape of the pentagon, we need to consider the properties of different types of pentagons and the given angle measures.<br><br>In a regular pentagon, all angles are equal, and each angle measures 108°. Since the given angles are not all equal, this pentagon cannot be a regular pentagon.<br><br>An equilateral pentagon has all sides of equal length, but the angles can vary. However, the sum of the angles in any pentagon is always 540°. Let's calculate the sum of the given angles:<br><br>90° + 110° + 90° + 140° = 430°<br><br>The sum of the four given angles is 430°, which means the measure of the fifth angle must be: 540° - 430° = 110°<br><br>Since the angles are not all equal, this pentagon is an irregular pentagon, which has sides and angles of varying measures. | 1 |

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| 5 | Divide the second count by 10 | On the first day, Farmer John counted his sheep correctly and got a total of 50.<br><br>On the second day, he accidentally counted each sheep 10 times. This means that the count on the second day was 10 times the actual number of sheep.<br><br>To find the actual number of sheep from the second day's count, Farmer John needs to divide the second count by 10.<br><br>For example, if the second day's count was 500 (because each of the 50 sheep was counted 10 times), then:<br><br>500 ÷ 10 = 50<br><br>Therefore, dividing the second day's count by 10 will give Farmer John the actual number of sheep in his flock. | 1 |
| 6 | 100 | To determine the correct value that can be used in both blank spaces, we need to solve the equation:<br><br>2 450 ÷ ___ = 24.5 × ___<br><br>Let's call the missing value 'x'. We can write two equations:<br><br>Equation 1: 2 450 ÷ x = 24.5<br><br>Equation 2: 24.5 × x = 2 450<br><br>From Equation 1, we can find the value of x:<br><br>2 450 ÷ x = 24.5<br><br>x = 2 450 ÷ 24.5<br><br>x = 100<br><br>Now, let's check if x = 100 satisfies Equation 2:<br><br>24.5 × 100 = 2 450<br><br>This is true, so x = 100 is the correct value that can be used in both blank spaces to make Samantha's calculation correct. | 1 |
| 7 | £26.40 | To find out how much each of the five paying friends contributed, we need to divide the total bill by the number of paying friends.<br><br>Total bill: £132<br>Number of paying friends: 5<br><br>Contribution per paying friend = Total bill ÷ Number of paying friends<br>= £132 ÷ 5<br>= £26.40<br><br>Therefore, each of the five paying friends contributed £26.40 towards the bill. | 1 |
| 8 | 30 kilometres | To find the distance Samantha cycled in one day, we need to divide the total distance by the number of days.<br><br>Total distance = 120 kilometres<br>Number of days = 4<br><br>Distance per day = Total distance ÷ Number of days<br>Distance per day = 120 ÷ 4 = 30 kilometres<br><br>Therefore, Samantha cycled 30 kilometres in a single day. | 1 |

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| 9 | Cube | A cube is the only 3D shape among the given options that has all its faces perpendicular to each other.<br><br>By definition, a cube is a three-dimensional solid object bounded by six square faces, facets or sides, with three meeting at each vertex at 90-degree angles.<br><br>The other shapes mentioned have faces that meet at different angles:<br><br>- A tetrahedron has four triangular faces that meet at 60-degree angles.<br><br>- An octahedron has eight triangular faces, with four meeting at each vertex at approximately 109.5-degree angles.<br><br>- A dodecahedron has twelve pentagonal faces, with three meeting at each vertex at approximately 108-degree angles.<br><br>Therefore, the cube is the only correct answer as it is the sole shape with faces that are all perpendicular (at 90-degree angles) to each other. | 1 |
| 10 | The triangle is right-angled. | If two angles add up to 90° then to make the total 180°, the third angle must be 90°.<br><br>Hence the third angle is a right-angle. | 1 |