Maths Sample Questions - Answer Sheet

Introduction

The questions used here are questions from past second stage entrance examinations. The questions on the paper do not become increasingly difficult; rather the levels of difficulty are spread throughout the paper. Below you will find the answer to each question and the way that the answer was worked out.

1. This question is a simple multiplication of 225 x 0.73. If you work it out using 73, don't forget to put the decimal point in the right place. The answer is £164.25.

2. The best way to work this one out is to calculate how long it takes each girl to travel one kilometre. In the case of Sumaiya, it is 2 and a half minutes (60 divided by 24); Georgina walks one kilometre in 10 minutes. You can then calculate that after 40 minutes, Sumaiya will have cycled 16 kilometres and Georgina will have walked four kilometres, meaning that they meet at that point. **The answer therefore is 8.55 a.m. (forty minutes after they left).**

3. The best way to work this out is to divide the total number by three first of all. That gives you 1042. **So the three consecutive numbers are 1041, 1042 and 1043.**
   The second question concerns odd numbers. Again, divide the total (this time by five because there are five consecutive odd numbers) which gives 645.

   This means that 641 + 643 + 645 + 647 + 649 = 3225 and the largest of these is 649

4. Although the shape is not a regular square, the sum of the perimeter is still 4 x 10cm **so the answer is 40cm.**

5. Again, a straight forward multiplication, although this time you need to remember to express the answer in kilograms rather than grams. So 24 x 740 gives you 17760, but you need to divide by 1000 **giving the answer as 17.76 kg.**

6. **The answer is 18/56**; for 18 to have been correct, it would have had to have been over 48.

7. Firstly you need to work out the area of the shaded part of the cuboid, which is 12 x 25 = 300 cm^2. The cuboid's volume is 12 x 25 x 7 (which equals 2100 cm^3). You then need to simplify the ratio 300 to 2100 to its simplest form to get the **answer which is 1 to 7**.

8. We know that each face of the hexagon has a length of 1cm, making a total perimeter of 14 cm. By adding on three more hexagons, you have a further 12 cm perimeter (remember that one side joins onto the existing shape). **So the total perimeter is 26 cm.**