

Worksheet

Ratios

Answer the following questions in the answer placement area provided:

1. A hospital has 50 patients in beds within the maternity unit and 580 patients in beds in the general unit. What is the ratio of patients between the departments?

Answer: $580/50 = 11.6:1$

So, if the hospital increased maternity capacity to 100 patients and they wanted the same proportion to split between departments, based upon the ratio / the proportionate ratio of 11.6:1 then it would be 1,160 patients in the general unit.

2. Tins of paint advise using a water additive and state the ratio that must be used to have effective coverage is 10:1
The very large trade tin is 15 litres, how much water in litres should be added?

Answer: 1.5 litres of water additive.

For example, if there was 10 litres then it would be 1 litre of water. If it was 20 litres then 2 litres of water, therefore ... 15 is half way, then 1.5 litres of water.

3. Scoosh Media canteen serve 25 cold meals for every 250 hot meals.
What is the ratio?

Answer: $250/25 = 10:1$

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4. If a scale model is required for a large building and the builders advise that for every 350 metre lengths of iron girders there needs to be 5 metres for the replica to be built. What is the ratio for all material based upon the iron girder lengths?

Answer: $350/5 = 70:1$

5. There are 600 pupils in a school. The ratio of boys to girls in this school is 3:5
How many girls and how many boys are in this school?

Answer **GIRLS:** **375**

Answer **BOYS:** **225**

Explanation: Some ratio / proportions can't all be 3:1 or 2:1 etc.
In this instance, it can't be anything other. For every 3 boys there are 5 girls.

The ratio 3:5 if worked out in simple terms of 8 in total pupils, 3 are boys and the comparison is indeed boys to girls.
Therefore, 3 boys would be 3/8ths of the total.

We have a proportion ratio to work upon for something larger. If it is 600 pupils instead of that small simple amount, then boys would account for 3/8ths of 600

Changing 3/8ths into a decimal of $8 \div 3 = 2.67$

So, $600 \div 2.67 = 224.719$ rounded off to 225 (we can't have part bodies).

The balance would be girls, being 375