



Example

A clothing store sells three different sizes of board shorts, S(mall), M(edium) and L(arge). They always purchase them in the ratio of 2 : 3 : 4. If the store purchases 18 M(edium) pairs of board shorts how many did they purchase altogether?



Let x = S size shorts and y = L size shorts.

$$\frac{S}{M} = \frac{2}{3} = \frac{x}{18}$$

so $x = 12$

i.e. 12 S(mall) pairs of shorts

$$\text{and } \frac{M}{L} = \frac{3}{4} = \frac{18}{y}$$

so $3y = 72$

$y = 24$

i.e. 24 L(arge) pairs of shorts.

Total sold = $12 + 18 + 24 = 54$ pairs of shorts



Merit/Excellence – Answer the following questions.

263. The ratio of three different coffees sold in a café are 2 : 4 : 5 (latté, cappuccino and flat white). If the café sells 48 cappuccino's in one day how many coffees did they sell in total?

265. An alloy is composed of three metals, copper, tin and iron in the ratio 17 : 2 : 3. If the alloy contains 19 units of tin, how many units of the other metals are required to make the alloy?



Example

The total number of Year 9 students who sign up for volleyball is 57 and the ratio of girls to boys is 4 : 15. How many boys would have to choose another sport and leave volleyball for the ratio of girls to boys to be 4 : 11.



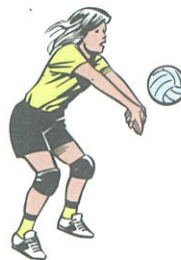
Number of boys who initially sign up for volleyball

is $\frac{15}{19} \times 57 = 45$ boys, so there must be 12 girls.

The required ratio of girls to boys is 4 : 11,

so $\frac{11}{15} \times 45 = 33$, which is the number of boys required.

Hence $45 - 33 = 12$ boys would need to choose another sport.



264. The total number of people at a night class course is 54 and the ratio of men to women is 15 : 12. How many men would have to leave the course if the required men to women ratio had to be 5 : 6?

266. The weight of dry ingredients in a recipe is 675 grams and the ratio of flour to sugar is 8 : 7. How much sugar would have to be added for the ratio to be 9 : 10?
