

Ratio Diluting Juice to Water is 1:3

If, we use 1 ml of diluting juice, how much water should be added based upon the above ratio? (Answer in ml)

Answer: 1 ml diluting juice ... **3 ml water**

For every 1 diluting juice it would be 3 water, irrespective of ml or any other measurement.

If, we use 100 ml of diluting juice, how much water should be added based upon the above ratio? (Answer in ml)

Answer: 100 ml diluting juice ... **300 ml water**

We would have a 100x amount of diluting juice, so we would need 100x water quantity based upon the ratio.

Therefore, 1 x 100 is 100 ml and 3 x 100 is 300 ml.

If, we use 200 ml of diluting juice, according to the ratio, how much water should be added?

Answer: again, if the quantity is multiplied by 200 on one side, the same on the other.

1 part diluting juice x 200 = 200 ml

*Therefore, 3 parts water would be 3 x 200 = **600 ml***

Meaning, 1:3 or 2:6 or even 3:9 ... the 1:3 is the lowest means to write this ratio.

If, we want to have 300 ml of water, how much diluting juice would be added to make it suitable, according to the ratio?

Answer: in reverse working from the ratio, 1:3 would be 3:1 meaning 300 ml of water would mean **100 ml of diluting juice** would be required.

Ratio Children to Adults at a college is 1:5

If, in 2001, 1000 children attended that college, how many adults would have attended based upon the above ratio?

Answer: **5000 Adults**

If, in 2002, there had been 5000 adults attend that college, according to the ratio, how many children?

Answer: **1000 Children**

Ratio Social Housing to Private Housing is 9:25

If, in January, 18 social houses built, how many private would be built based upon the ratio?

Answer: 18 social housing is double the number mentioned in the ratio, therefore we would double the number for private housing that is mentioned in the ratio.

So, 9 doubled is 18, therefore 25 doubled is 50.

The answer is **50 private houses**.

If, in February, there is 75 Private Houses built, how many social houses?

Answer: 3×25 makes up the 75, therefore 3×9 on the other side of the ratio ...

The answer is **27 Social Houses**.

If, in March, 34 houses in total are built, according to the ratio, how many of social housing type and how many of private housing type are there within this total?

Answer: 9 plus 25 gives us a total based upon the ratio, giving us 34.

Therefore, if 34 houses built in total, the split must be the ratio of **9 Social and 25 Private**.

Ratio for a dog grooming service has Alsatians to Labradoodle is 3:5

If the dog grooming service last week had 30 Alsatians, according to the ratio, how many Labradoodles?

Answer: 50 Labradoodles

If the dog grooming service this week had 500 Labradoodles, according to the ratio, how many Alsatians?

Answer: 300 Alsatians

If the dog grooming service was planning for next week, expecting a total of 800 dogs in total. Based upon the ratio above, how many Alsatians and how many Labradoodles?

Answer: The total of the ratio 3 plus 5 giving us a total of 8.

On a small scale, $3/8$ ths are Alsatian and $5/8$ ths are Labradoodle.

We can also see the total of 8 can be multiplied by 100 and workings out can be done on a larger scale, based upon the exact same ratio (just bigger).

Therefore, $300/800$ is Alsatian, that's **300 Alsatian** and $500/800$ means it is **500 Labradoodle**

Look at the notes/material and video tutorials for Ratio and Proportion.

Then try this one (it is similar to the previous question above):

Ratio for a dog grooming service has Alsatians to Labradoodle is 3:5

If the dog grooming service became very busy and planning for next year, expecting a total of 1,440 dogs in total. Based upon the ratio above, how many Alsatians and how many Labradoodles?

Look back at notes and look back at the previous question to see how you calculated it.

Tip: this is very similar, just different numbers involved from a total.

Answer: 540 Alsatians and 900 Labradoodles

Explanation: If the total is 1440 dogs. The ratio is 3:5 and adding these numbers together would give us 8, therefore we can say $\frac{3}{8}$ ths of the total is Alsatians and $\frac{5}{8}$ ths of the total is Labradoodle.

Therefore, $\frac{3}{8}$ ths of 1440 is Alsatians. Fractions means $\frac{3}{8}$ is 3 divided by 8. That gives us 0.375

We can then multiply $1440 \times 0.375 = 540$ Alsatians

This means the balance of the 1440 being 900 Labradoodles

Irrespective of what we work with in respect to ratio, irrespective of measurement or quantities, it is the same process every time.

Total the ratio numbers (add them together). Consider each side of the ratio as being a part of the whole, in other words, a fraction.

Fractions can be changed to decimal and a part of the total calculated through multiplication.

The answer can be checked by reducing down and estimating based upon the ratio, but it should be correct if the same principle is applied all the time.

This works for multiple ratio; the same thing each time.

Get the mechanics correct, use the correct workings and the answer will follow – every time

Try the all the exercises associated with the topic for Ratio and Proportion.

Read over the notes, watch the videos and try the exercises a few times.

Make up some of your own and try it out.