



# Ratio Problems



## Questions

1. On a beach, there is a ratio of 5 seagulls to every 2 crabs. If there were a total of 70 crabs on the beach, how many of the seagulls were there?
2. If the ratio of meters to feet is 1 meter to 3,28 feet, then how long is 6 meters in feet?
3. A farm has a ratio of 2 sheep, to 3 pigs to 4 goats. If there are 12 sheep, how many goats are there?
4. In a fish tank, there are 2 blue fish for every 4 green fish. If there are 14 green fish, how many fish are in the tank?
5. What is the ratio of cars to the total number of objects in the image below?



6. Two trucks with trailers stop next to each other at a traffic light. Truck A has 18 wheels and Truck B has 54. How fewer wheels does the Truck A have compared to Truck B?





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7. What is the ratio of footballs to cars in the image below?



8. In a cake recipe, you need 2 cups of flour for every quarter cup of sugar. How much sugar would you need to match with 8 cups of flour?
9. A store has a ratio of shirts, shoes and hats of 4 : 6 : 3. If there are 24 hats in the store, how many shirts are there?
10. In group of classmates, 12 prefer chocolate ice cream, 6 prefer vanilla ice cream and 4 prefer strawberry ice cream. What ratio of classmates prefer strawberry to vanilla ice cream?





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## Answers

- We know that the people ratio is 5 seagulls : 2 crabs meaning there are a total of 7 animals per grouping (5 seagulls + 2 crabs).  
We then know that there 2 crabs per every 7 animals. Since we know there are 70 crabs, we can calculate the total animals as  $7/2 * 70 = 245$ .  
We also know that there 5 seagulls per every 7 animals. Then to calculate total seagulls we take  $245 * 5 / 7 = 175$  seagulls.
- The ratio is 1 meter : 3.28 feet.  
Therefore 6 meters = ? feet  
So we need to multiply the feet by 6 to keep the ratio the same.  
 $3.28 \times 6 = 19.68$   
There 19.68 feet is equal to 6 meters.
- We know that the people ratio is 2 sheep : 3 pigs : 4 goats. This means there are a total of 9 animals per grouping (2 sheep + 3 pigs + 4 goats).  
We then know that there 2 sheep per every 9 animals. Since we know there are 12 crabs, we can calculate the total animals as  $9/2 * 12 = 54$ .  
There are 4 goats per every 9 animals. To calculate total goats we take  $54 * 4 / 9 = 24$  goats.
- We know that the people ratio is 2 blue fish : 4 green fish. This means there are a total of 6 fish per grouping (2 blue + 4 green).  
We know there are 14 green fish, so can calculate the total fish as  $6/4 * 14 = 21$ .
- There are 30 objects (5 rows x 6 columns) in the image. There are only 5 cars.  
Therefore  $30/5 = 6$   
The ratio of cars to total objects is 1 : 6.
- The ratio of wheels can be found be dividing both by the highest common factor (18).  $18 / 18 = 1$  and  $54 / 18 = 3$ . Therefore the ratio of wheels is 1 : 3.  
Truck A therefore has three times fewer wheels.





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## Answers

7. There are 15 footballs and 10 cars in the image.  
If we divide both by 5 (the highest common factor) we end up with 3 footballs to 2 cars or 3 : 2.
8. The ratio we have is 2 cups flour :  $\frac{1}{4}$  sugar.  
8 cups of flour is 4 times the number we need for 1 cake therefore we need 4 times the amount of sugar.
- $$4 \times \frac{1}{4} = 1$$
9. The total count of clothing items per group would be  $4 + 6 + 3 = 13$ .  
That means there are  $13 / 3 * 24 = 104$  items of clothing in the store.  
 $104 * 4 / 13 = 32$ .
10. In order to determine the ratio, you need to find the highest common factor for both. This is 2 being the highest number both can be divided by.  
 $6 / 2 = 3$  and  $4 / 2 = 2$ .  
Therefore the ratio of strawberry to vanilla is 2 : 3.

