# **Homework 8 – Fractions Review, Ratio & Decimals - Review**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. A chocolate bar is separated into several equal pieces. If one person eats 1/4 of the pieces, and a second person eats 1/2 of the remaining pieces, then there are six pieces left over. Into how many pieces was the original bar divided?
2. The sum of two numbers is 16 and their product is 48. What is the ratio of the two numbers when expressed as an improper fraction in lowest terms?
3. In simplest terms, what is the value of the following?

$\frac{6}{.3}$ + $\frac{.3}{.06}$

1. For your class project you are growing a pumpkin. Right now it weighs 25 pounds. Each week it grows by 20% larger than the week before. How many pounds will it be after growing for 3 weeks?
2. a. In a neighborhood 6⁄8 of the residents voted. In the state 2⁄8 of the population voted. Which is more?

b. Which has less water? A swimming pool that is 1⁄6 full or one that is 4⁄6 full?

c. Which is shorter? 3⁄4 of a minute or 2⁄4 of an hour?

d. Which is lighter? A 4⁄5 pound red bowling ball or a 1⁄5 pound blue bowling ball?

e. Which is shorter? 4⁄5 of a millimeter or 3⁄5 of a meter?

1. Last week, Luis and Tiffany decided to see how fast they could sprint 200 meters. They asked their friend William to time them with a stopwatch.

Luis sprinted first and ran 200 meters in 54.98 seconds. When it was Tiffany's turn, she sped off and completed the run in 51.61seconds.

**How much faster was Tiffany than Luis in seconds?**

Seconds

1. Last week, Nadia and Christopher decided to see how fast they could sprint 400 meters. They asked their friend Luis to time them with a stopwatch.

After 6.97 minutes, Luis agreed to time the runners. Nadia sprinted first and ran 400 meters in 84.9 seconds. When it was Christopher's turn, he sped off and completed the run in 61.93 seconds.

**How much faster was Christopher than Nadia in seconds?**

Seconds

1. Tina’s cat weighs 2.6 kilograms. Her dog weighs 4 times as much as her cat. How much does her dog weigh in kilograms?
2. Jim rides the bus to and from school each day. A one-way trip is 8.12 kilometers. How many kilometers does he travel in 3 days?
3. Baby Isabel plays with blocks. Each block is 3.7 inches tall. She has a collection of 41 blocks. If she could stack all of the blocks up one on top of the other, how many inches tall would her tower of blocks be?
4. Ashley bought a new pair of shorts at the store when they were having a 45% off sale. If the regular price of the pair of shorts was $57, how much did Ashley pay with the discount?

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1. Ben buys a basket of nectarines on sale for $24 before tax. The sales tax is 19%. What is the total price Ben pays for the basket of nectarines?

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1. Roberta needs 12 zippers to make 3 of the same backpacks. If Roberta has 48 zippers, how many of those same backpacks can she make?

 Backpacks

1. Rick is a on a bicycle trip. Every 4 days he bikes 230 km. If Rick keeps this same pace for 16 days, how many kilometers will he bike? km

**Solutions:**

1. Working backwards, …

If the 2nd person ate half the remaining pieces and was left with 6 pieces, there must have been 12 pieces before he ate any.

So the 1st person ate ¼ of the pieces and was left with 12. So there must have been (12 x 4/3), or 16 pieces to start with.

**Answer: 16 pieces**

1. First, find the two numbers by using trial and error:

 1 x 48 = 48 (good) 1 + 48 = 49 (not 16)

 2 x 24 = 48 (good) 2 + 24 = 26 (not 16)

 3 x 16 = 48 (good) 3 + 16 = 19 (not 16)

 4 x 12 = 48 (good) 4 + 12 = 16 (good!)

So, our two numbers are 4 and 12. An improper fraction is one where the numerator is bigger than the denominator, so that would be $\frac{12}{4}$. Reducing that to lowest terms, we get 3.

**Answer: 3**

1. The meaning of any fraction $\frac{a}{b}$ is a $÷$ b. Therefore, $\frac{6}{.3}$ means 6 $÷$ 0.3, which also means $\frac{60}{3}$ whose value is 20. Similarly, $\frac{3}{.06}$ means 0.3 $÷$ .06, which also means $\frac{30}{6} $whose value is 5. The value of the sum is 25. **Answer: 25**
2. Right now, pumpkin weighs 25 pounds.

After first week, 25 + 20% = 25 + 5 = 30 pounds

After second week, 30 + 20% = 30 + 6 = 36 pounds

After third week, 36 + 20% = 36 + 7.2 = 43.2 pounds

**Answer: 43.2 pounds**

1. a. 6/8 > 2/8

6/8 = ¾

2/8 = ¼

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b. A swimming pool that is 1⁄6 full has less water

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c. ¾ of a minute = ¾ x 60 seconds = 45 seconds

2/4 of an hour = ½ x 60 minutes = 30 minutes = 30 x 60 seconds = 1800 seconds

 Therefore, ¾ of a minute is shorter.

d. 1⁄5 pound blue bowling ball is lighter than 4/5 pound red bowling ball

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e. 1 meter = 1000 millimeters

3/5 x 1 meter = 3/5 x 1000 = 600 millimeters

4/5 x 1 millimeter = 0.8 millimeter

600 millimeters > 0.8 millimeter

Therefore, 4⁄5 of a millimeter is shorter than 3⁄5 of a meter

1. To find how much faster Tiffany was than Luis, we need to find the difference between their times in seconds.

Luis's time - Tiffany's time = difference in times.



Tiffany was 3.37seconds faster than Luis.

1. To find how much faster Christopher was than Nadia, we need to find the difference between their times in seconds.

Nadia's time - Christopher's time = difference in times.



Christopher was 22.97 seconds faster than Nadia.

1. 2.6 x 4 = 10.4 His dog weighs 10.4 kilograms.
2. He makes 6 total trips in 3 days. 6 x 8.12 = 48.72 He travels 48.72 kilometers.
3. 3.7 x 41 = 151.7 It would be 151.7 inches tall.
4. First, find the amount of the discount by multiplying the original price of the item by the discount.

 $57×45%=?

Percent means "out of one hundred," so 45 % is equivalent to 45/100​​ which is also equal to 45÷100.

45÷100=0.45

To find the amount of money saved, multiply 0.45 by the original price.

0.45×$57=$25.65

To find the final price Ashley paid, subtract $25.65 from the original price.

$57−$25.65=$31.35

1. To find the total price, first find the amount of sales tax paid by multiplying the sales tax by the original price of the basket of nectarines.

19%×$24=?

Percent means "out of one hundred," so 19% is equivalent to 19/100​​ which is also equal to 19÷100.

19÷100=0.19

To find the amount of sales tax that must be paid, multiply 0.19 by the original price.

0.19×$24=$4.56

To find the final price Ben paid, add the sales tax you just found to the original price.

$4.56+$24.00=$28.56



 There are 4 times as many zippers, so 4 times as many backpacks can be made.

12 backpacks can be made if there are 48 zippers.

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