

Math 7H - Unit 1b
Day 10 - Dividing Fractions

Lesson Objectives:

- I can divide positive and negative fractions.

Let's review how division works.

$$6 \div 2 = 3$$

If we divide 6 cookies between 2 kids, then there will be 3 cookies in a serving.



If we divide 6 cookies into serving sizes of 2 cookies, then 3 kids will get a serving.



$$6 \div \frac{1}{2} = 12$$

If we divide 6 cookies between $\frac{1}{2}$ a kid, then there will be 12 cookies in a serving.



If we divide 6 cookies into serving sizes of $\frac{1}{2}$ cookie, then 12 kids will get a serving.



$$8 \div \frac{1}{4} = 32$$

If we divide 8 candy bars into serving sizes of $\frac{1}{4}$ candy bar, then 32 kids will get a serving.



$$8 \div \frac{3}{4} = 10\frac{2}{3} = \frac{32}{3}$$

If we divide 8 candy bars into serving sizes of $\frac{3}{4}$ candy bar, then 10 kids will get a full serving and there will be $\frac{2}{3}$ of a serving left over.



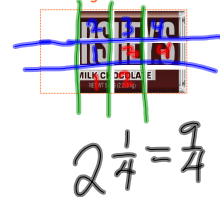
$$\frac{3}{4} \div \frac{1}{4} = 3$$

If we divide $\frac{3}{4}$ candy bar into serving sizes of $\frac{1}{4}$ of a whole candy bar, then 3 kids will get a serving.



$$\frac{3}{4} \div \frac{1}{3} =$$

If we divide $\frac{3}{4}$ candy bar into serving sizes of $\frac{1}{3}$ of a whole candy bar, then 2 kids will get a serving with $\frac{1}{4}$ serving left over.



Two numbers whose product is 1 are multiplicative inverses, or reciprocals, of each other.

What is the reciprocal of the following numbers?

$$5 \cdot \frac{1}{5} = 1 \quad \frac{8}{3} \cdot \frac{3}{8} = 1 \quad -15 \cdot \frac{1}{15} = -1 \quad \frac{1}{300} \cdot 300 = 1$$

To divide by a fraction, multiply by its multiplicative inverse (or the reciprocal).

$$\frac{4}{5} \div \frac{3}{10} =$$

$$\frac{4}{5} \times \frac{10}{3} = \frac{40}{15} = \frac{8}{3}$$

$$\frac{5}{6} \div 3 =$$

$$\frac{5}{6} \times \frac{1}{3} = \frac{5}{18}$$

$$-\frac{2}{3} \div \left(-\frac{5}{6}\right) =$$

$$4\frac{2}{3} \div -3\frac{1}{9} =$$

$$-\frac{2}{3} \times -\frac{6}{5} = \frac{12}{15} = \frac{4}{5}$$

$$\frac{14}{3} \div -\frac{28}{9} = \frac{14}{3} \times -\frac{9}{28} = -\frac{126}{84} = -\frac{3}{2}$$

Homework

Dividing Fractions WKS

* Individual Think Time *



What to do if you get stuck....

1. **Reread the problem.** Did you write it down correctly?
2. **Reread your notes.** Is there a problem similar that we did together in class?
3. **Find a problem similar in your book.** Try this one to see if it helps.
4. **Skip the problem until the end of Individual Think Time.** Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...

