

Math 7 - Unit 2b

~~Day 1 - Add & Subtract One-Step Equations Review~~
~~Day 4 - Multiply & Divide One-Step Equations with Rational Numbers~~
 Lesson Objectives:

- I can solve one-step equations with rational numbers by multiplying & dividing.
- I know how to show work when solving equations.

Steps for Solving Equations

Step #1 Get rid of the constant

Step #2 Get rid of the coefficient

Question: What happens if the **coefficient** is a fraction or decimal? Nothing new. It's the same process!

Click above.

Solve each equation. Be sure to show ALL work.

1. $-0.5a = 20$
 $\frac{-0.5a}{-0.5} = \frac{20}{-0.5}$ Division Prop (=)
 $a = -40$

2. $\frac{n}{1.6} = -5 \cdot 1.6$ multiplication Prop (=)
 $n = -8$

3. $-5.2 = \frac{b}{-0.13}$
 $-0.676 = b$ multiplication Prop (=)

4. $-14.4 = -0.6p$
 $\frac{-14.4}{-0.6} = \frac{-0.6p}{-0.6}$ Division Prop (=)
 $24 = p$

Solve each equation. Be sure to show ALL work.

5. $\frac{c}{3} = \frac{4 \cdot 3}{5}$ multiplication Prop (=)
 $c = \frac{12}{5}$

6. $\frac{1 \cdot 2}{6 \cdot 7} = 6d$ Division Prop (=)
 $\frac{2}{42} = 6d$
 $\frac{1}{21} = d$

7. $-\frac{3}{4} = -\frac{5d}{6}$ Division Prop (=)
 $\frac{3}{4} = \frac{5d}{6}$
 $\frac{3}{4} \cdot \frac{6}{5} = \frac{5d}{6} \cdot \frac{6}{5}$
 $\frac{9}{2} = d$

8. $\frac{c}{2} = -\frac{6}{5}$ multiplication Prop (=)
 $c = -\frac{12}{5}$

How would you solve $\frac{2x}{3} = 6$?

Method 1: Undo the Division, Undo the Multiplication

$\frac{2x}{3} = 6 \rightarrow \frac{2x}{3} \cdot 3 = 6 \cdot 3 \rightarrow 2x = 18 \rightarrow \frac{2x}{2} = \frac{18}{2} \rightarrow x = 9$

Method 2: Multiply by the reciprocal. **EASIEST!!**

$\frac{2x}{3} = 6 \rightarrow \frac{2x}{3} \cdot \frac{3}{3} = 6 \cdot \frac{3}{3} \rightarrow 2x = 18 \rightarrow \frac{2x}{2} = \frac{18}{2} \rightarrow x = 9$

Method 3: Divide by the coefficient. **YUCK!!!**

$\frac{2x}{3} = 6 \rightarrow \frac{\frac{2x}{3}}{\frac{2}{3}} = \frac{6}{\frac{2}{3}} \rightarrow x = 6 \div \frac{2}{3} \rightarrow x = 6 \cdot \frac{3}{2} \rightarrow x = 9$

Solve each equation. Be sure to show ALL work.

9. $\frac{2f}{7} = -10 \cdot 7$ multiplication Prop (=)
 $\frac{2f}{7} = -70$
 $f = -35$

10. $\frac{2e}{3} = \frac{4}{5}$ multiplication Prop (=)
 $\frac{2e}{3} \cdot \frac{3}{2} = \frac{4}{5} \cdot \frac{3}{2}$
 $e = \frac{12}{10}$
 $e = \frac{6}{5}$

Homework

Record & Practice Journal pg. 45-48

* 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...

