

Solve. Try to use some of the shortcuts we discussed in class to deal with fractions and decimals!

1. $\frac{2}{5}y - \frac{1}{3} = \frac{2}{3}y + 2$
 $y = -\frac{35}{4}$

3. $\frac{1}{4}(x+6) = \frac{1}{6}(x+8)$
 $x = -2$

2. $1.4x + 3.8 = 0.8x + 2.6$
 $x = -2$

Write an algebraic expression for each of the quantities being compared. Like we practiced in class, write down each unknown quantity in words and then use the same variable in an expression to describe each quantity.

4. The length of a rectangle is 14 feet more than double the width.
 $x = \text{width of rectangle (ft)}$
 $2x + 14 = \text{length of rectangle (ft)}$

5. A census of the Parker Middle School found that the number of seventh graders was forty more than the number of eighth graders. The number of sixth graders was five-sixths of the number of eighth graders.
 $x = \text{the number of 8}^{\text{th}} \text{ graders}$
 $40 + x = \text{the number of 7}^{\text{th}} \text{ graders}$
 $\frac{5}{6}x = \text{the number of 6}^{\text{th}} \text{ graders}$

Answer the following by **writing and solving an equation**:

6. When six is subtracted from half of a number, the result is -18 . What is the number?

$$\frac{1}{2}x - 6 = -18$$
$$x = -24$$