# Warm-up



Remember:

A **ratio** compares two quantities.

We can also write ratios as fractions.

*A ratio and a fraction can represent the same relationship.*

# WHAT YOU NEED TO KNOW FOR THIS NEXT PART

1. Factors
2. Greatest common factors
3. Your facts

Simplifying Ratios/Fractions

- Both fractions and ratios can be simplified.
- Steps:
  - > Find the greatest common factor (GCF)
  - > Divide both quantities by that factor
  - > It is simplified if you cannot make it any smaller

# Example

$$\frac{20}{35} \overset{\div 5}{\underset{\div 5}{}} = \frac{4}{7}$$

20

1 x 20

2 x 10

4 x 5

35

1 x 35

5 x 7

GCF = 5

$$16:12 \overset{\div 4}{\underset{\div 4}{}} 4:3$$

16

1 x 16

2 x 8

4 x 4

12

1 x 12

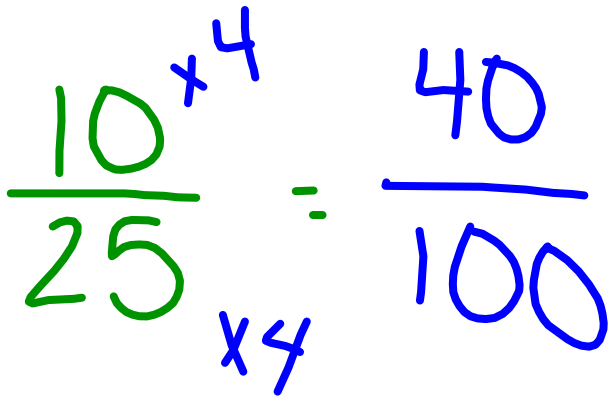
2 x 6

3 x 4

GCF = 4

# Equivalent Fractions/Ratios

- Equivalent fractions and ratios that have the same value, even though they look different.
- You can multiply OR divide both parts by the same number to get an equivalent fraction or ratio.



A hockey team wins 3 games for every 4 games they play.

If they play 8 games, how many wins would they have if the ratio stays the same?

games to wins

$4 \overset{\times 2}{:} 3 \overset{\times 2}{}$

$8 : 6$

They would have 6 wins!

A bag contains 2 red candies for every 5 blue candies.

If there are 10 blue candies, how many red candies should there be to keep the ratio the same?

red to blue.

$2 \overset{\times 2}{:} 5 \overset{\times 2}{}$

$4 : 10$

There should be 4 red candies.

# You try:

For every 4 boys at soccer practice, there are 3 girls.

If 8 boys attend, how many girls would there be if the ratio remains the same?

A student uses 5 blue blocks for every 2 yellow blocks.

If they use 10 yellow blocks, how many blue blocks would they need?

# Homework

girls to boys

$6 \overset{\times 3}{:} 16 \overset{\times 3}{}$

$18 : 48$

if ratio stays the same