Name: _____

AWM10 | Ch. 6 Getting Started | Assignment

PART A: How to Cross Multiply

When we need to solve for a variable in a proportion, we have to cross multiply in order to solve for it.

Variable: an unknown value represented by a letter.

Steps to solve for a variable in a proportion:

1) Multiply the variable with the number diagonal from it.
2) Multiply the other 2 numbers that are diagonal from each other.
3) Divide both sides by the number in front of the variable (multiplied to it).

Examples:

$\frac{5}{7}=\frac{x}{35}$	$\frac{7}{4}=\frac{10}{x}$
$\frac{s}{3}=\frac{8}{4}$	$\frac{3}{7}=\frac{10}{h}$

Solve Each Proportion:

1) $\frac{7}{9}=\frac{v}{6}$

2) $\frac{7}{3}=\frac{3}{x}$

3) $\frac{3}{4}=\frac{a}{10}$

4) $\frac{8}{7}=\frac{4}{n}$

5) $\frac{v}{8}=\frac{5}{9}$

6) $\frac{x}{10}=\frac{4}{5}$

7) $\frac{n}{9}=\frac{4}{5}$

8) $\frac{7}{4}=\frac{10}{x}$

9) $\frac{9}{4}=\frac{10}{k}$

10) $\frac{4}{p}=\frac{6}{10}$

11) $\frac{n}{8}=\frac{5}{6}$

12) $\frac{9}{10}=\frac{3}{x}$

13) $\frac{m}{4}=\frac{2}{3}$

14) $\frac{r}{9}=\frac{5}{6}$

PART B: How to simplify fractions and to put them into mixed numerals.

Mixed numeral: a whole number and a fraction together.

Greatest common factor: largest number that will divide evenly into 2 (or more) numbers.

Multiplying fractions: multiply the numerators and then multiply the denominators. Remember that a whole number has a 1 as a denominator.

Examples:

1) $\underline{12} \div 6 = \underline{2}$
$18 \div 6 = 3$

2) $\underline{48} \div 8 = \underline{6}$
$56 \div 8 = 7$

3) $\underline{12} \div 6 = \underline{2}$
$42 \div 6 = 7$

4) $\underline{27} \div 9 = \underline{3}$
$36 \div 9 = 4$

5) $\underline{32} \div 4 = \underline{8} = 1\frac{3}{5}$
$20 \div 4 = 5$

6) $\underline{45} \div 5 = \underline{9} = 1\frac{4}{5}$
$20 \div 5 = 5$

Simplify each. Write your answer as a mixed number when possible.

1) $\frac{6}{24}$

2) $\frac{45}{63}$

3) $\frac{12}{32}$

4) $\frac{9}{18}$

5) $\frac{4}{12}$

6) $\frac{12}{30}$

7) $\frac{18}{45}$

8) $\frac{20}{40}$

9) $\frac{36}{96}$

10) $\frac{72}{126}$

11) $\frac{18}{30}$

12) $\frac{6}{36}$

13) $\frac{4}{8}$

14) $\frac{6}{42}$

15) $\frac{30}{36}$

16) $\frac{16}{20}$

17) $\frac{60}{96}$

18) $\frac{36}{54}$

19) $\frac{20}{32}$

20) $\frac{36}{45}$

Some more practice...

Simplify each. Write your answer as a mixed number when possible.

1) $\frac{12}{18}$

2) $\frac{12}{42}$

3) $\frac{18}{30}$

4) $\frac{18}{24}$

5) $\frac{48}{56}$

6) $\frac{20}{80}$

7) $\frac{36}{45}$

8) $\frac{8}{16}$

9) $\frac{42}{48}$

10) $\frac{24}{36}$

Find each product.

11) $\frac{3}{2} \cdot 9$

12) $5 \cdot \frac{8}{5}$

13) $7 \cdot \frac{1}{3}$

14) $2 \cdot \frac{7}{5}$

15) $10 \cdot \frac{7}{5}$

16) $\frac{4}{3} \cdot 6$

17) $2 \times \frac{1}{2}$

18) $6 \cdot \frac{5}{8}$

19) $12 \cdot \frac{2}{3}$

20) $5 \cdot \frac{19}{10}$