Math 3 Classwork 24

Warm Up

1 Multiplication and Division Quiz. Do as many problems as you can in **5 minutes.**

55 × 20 =	300 × 7 =	600 × 15 =
30 ×15 =	15 × 40 =	55 × 4 =
2 × 750 =	20 × 75 =	20 × 65 =
112 ÷ 2 =	240 ÷ 6 =	250 ÷ 25 =
160 ÷ 40 =	150 ÷ 50 =	320 ÷ 80 =
320 ÷ 40 =	325 ÷ 25 =	250 ÷25 =

Homework Review

2 $The \angle ACB$ is 43^0. How big (in degrees) will be a complementary angle? How big (in degrees) will be a supplementary angle?

Complementary angle = _____ supplementary angle = _____

3 a) Imagine that you have 5 cards, and each card has a different number on it. If the cards only have odd numbers, what computations must you do to get an even result?

b) If the cards only have even numbers, is it possible to get an odd result? What computations must you do to get an odd result? Hint: Consider all 4 types of calculations you know (addition, subtraction, multiplication and division).

4 A dozen eggs will make four omelets. How many eggs are needed to make:

a. 8 omelets? _____

b. 1 omelet? _____

c. 9 omelets? _____

How many omelets can be made from?

d) 2 dozen eggs? _____

e) 9 eggs? _____

f) 21 eggs? _____

REVIEW I

5 OPEN parenthesis and SIMPLIFY

a) $a - (2b - c) - (3d - c - b - 5a) =$ _____

b) $4(5a + 4b) - 2(a - 3c + 5b - 6b) =$ _____

c) $3x - (y + z - x - 3z + 4y) =$ _____

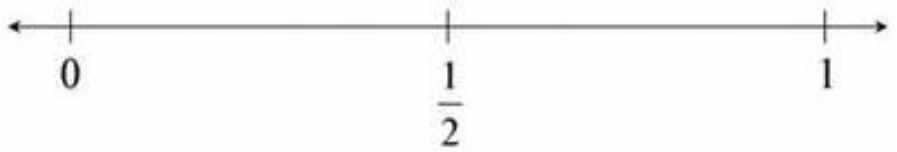
6 OPEN parenthesis and SIMPLIFY

a) $12(5 + a) - 4(12 - a) =$ _____

b) $15(2 - a) - 5(4 - 2x + 3a) =$ _____

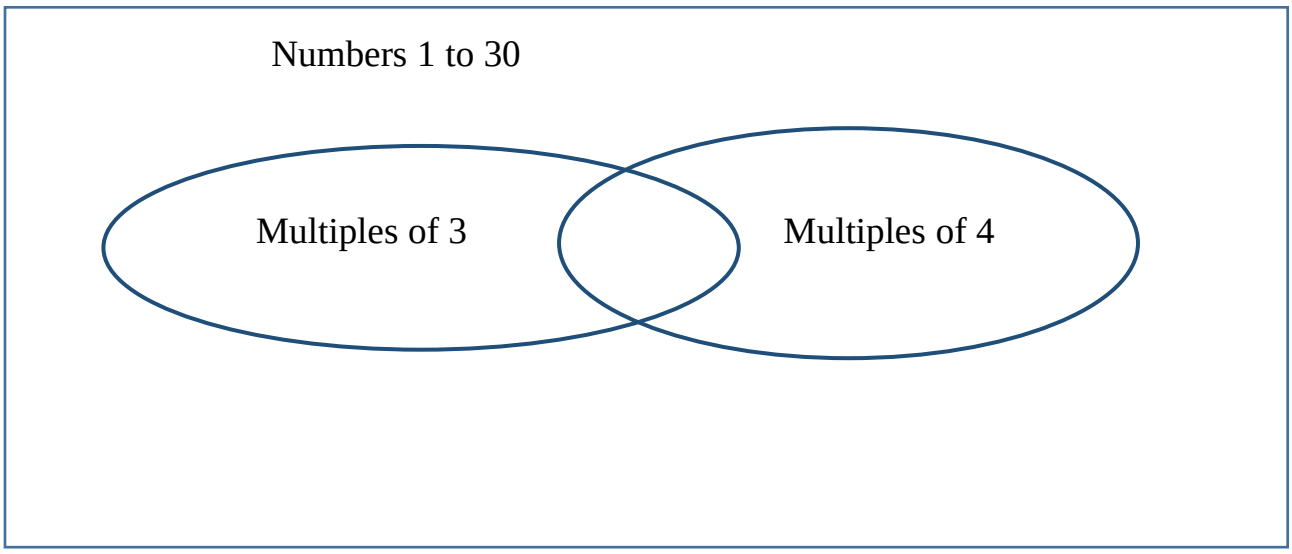
c) $4(2x - 4) + 2(5x - 12) =$ _____

7 Which number is closest to 1/2?



a) 1/8 b) 3/8 c) 7/8 d) 9/8

8 Complete the Venn diagram:



9 Write (or say) each fraction using words:

a) 3/5 _____

b) 2/3 _____

c) 1/6 _____

10 Reduce the following fractions to the lowest term:

a) $\frac{18}{60}$= b) $\frac{21}{70}$ = c) $\frac{125}{200}$ =

To simplify a fraction (reduce it to lowest terms), the numerator and the denominator must be divided by the same nonzero whole number. A fraction is in lowest terms when the greatest common factor (GCF) of its numerator and denominator is one.

11 Long division:

a) 384 ÷ 8 = b) 384 ÷ 12 =

New Material I

Comparing Fractions

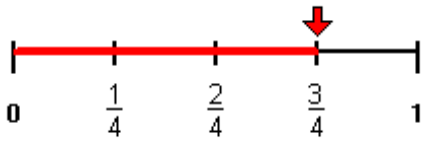
I. **Fractions having the same numerator.** The denominator tells us how many equal pieces are in the whole, determining the size of each piece, and the numerator tells us how many of those pieces we have.

For example, to compare $\frac{2}{3}$ and $\frac{2}{5}$, there are more fifths in the whole than thirds, so fifths are smaller.

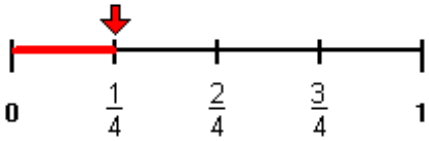
This means that $\frac{2}{5} < \frac{2}{3}$.

12 a) Mathew rode his bike for three-fourths of a mile and Elbert rode his bike for one-fourth of a mile. Which boy rode his bike farther?

Mathew:



Elbert:



Compare: $\frac{3}{4}$? $\frac{1}{4}$

These fractions have like denominators, so we **compare the numerators.**

The denominator tells us there are the same number of pieces in the whole, however one fraction has more of those pieces than the other.

b) Aurora ate three-fourths of a pie and Abigail ate two-thirds of a pie. If both pies were the same size, then which girl ate more pie?

These fractions have unlike denominators (and unlike numerators). It would be easier to compare them if they had like denominators. We need to convert these fractions to equivalent fractions with a common denominator in order to compare them more easily.

Aurora: $\frac{3}{4} = \frac{n}{12}$ $\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$

Abigail: $\frac{2}{3} = \frac{n}{12}$ $\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$

Hint: Now you have to compare $\frac{9}{12}$ and $\frac{8}{12}$

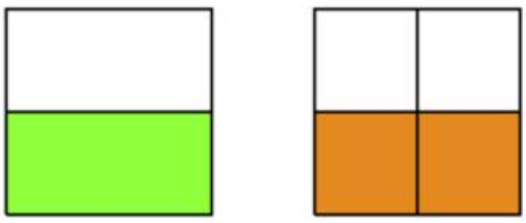
Solution:

13 Compare the fractions below. Use the symbols >, =, or < to record your comparisons. Draw a picture if you need to illustrate your answer.

a) 2/6 … 5/6 b) 1/2 … 3/6 c) 3/6 … 4/8

14 Equivalent fractions such as 1/2 and 2/4. One way to show that these fractions represent the same quantity is with a picture:

Here the two large squares are equally sized which have been divided into two equal parts (on the left) and four equal parts (on the right). The same fraction of the whole is shaded in each picture so 1/2 is equivalent to 2/4.



$\frac{1}{2}$ $\frac{2}{4}$

Equivalent fractions have different sized pieces, but the same total amount shaded.