Classwork 8.

Review of Homework 6

1. In a zoo there are birds with 2 legs each and mammals with 4 legs each. How many birds and mammals are in the zoo, if they have 6000 legs and 2500 heads altogether? (use substitution)

Fractions.

Multiplication of a whole number by a fraction.

$$\frac{2}{3}\times 5 = \frac{2}{3}+\frac{2}{3}+\frac{2}{3}+\frac{2}{3}+\frac{2}{3}\ (we\ add\ \frac{2}{3}\ to\ itself\ 5\ times)$$

Of course we remember how to add fractions with the same denominator:

$$\frac{2}{3}+\frac{2}{3}+\frac{2}{3}+\frac{2}{3}+\frac{2}{3}=\frac{2+2+2+2+2}{3}$$

$$\frac{2+2+2+2+2}{3}=\frac{2\times 5}{3}$$

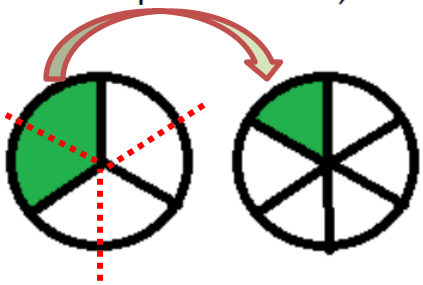
$$\mathbf{\frac{2}{3}\times 5=\frac{2\times 5}{3}}$$

To multiply fraction by a whole number, multiply the numerator by this number

$$\frac{a}{b}\times c=\frac{a}{b}\times\frac{c}{1}=\frac{a\ \mathrm{x}\ c}{b}$$

Multiplication of a fraction by a fraction.

Analogously, $\frac{1}{2}\times\frac{1}{3}$ means $\frac{1}{2}of\frac{1}{3}$. Now, half of 1/3 piece of a disk is 1/6 of a disk (look at the picture below).



Notice that we could have just multiplied the denominators of $\frac{1}{2}$ and $\frac{1}{3}$.

To multiply fraction by a fraction, multiply the numerators to get the numerator for the answer, multiply denominators to get denominator for the answer.

$$\frac{a}{b}\times\frac{c}{d}=\frac{a\ x\ c}{b\ x\ d}$$

Compute:

a) $\frac{5}{12}-\frac{1}{4}$ **b)** $\frac{3}{5}-\frac{3}{8}$

c) $\frac{2}{5}\times\frac{3}{4}=$ **e)** $\frac{4}{7}\times\frac{3}{4}=$ **f)** $\frac{5}{8}\times\frac{4}{15}=$

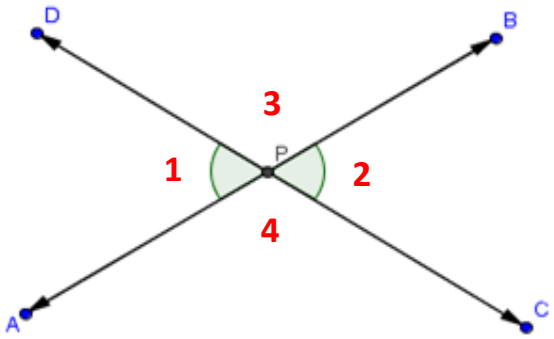
g) $\frac{1}{7}\times?=\frac{5}{63}$ **h)** $\frac{4}{9}\times?=1$

Word Problems

There was $\frac{1}{4}$ of the cake left after a Birthday party. Ann ate $\frac{2}{3}$ of the leftover cake. How much of the original cake did she eat?

Ann ate $\frac{1}{4}$ of the cake the first day, on the second day she ate $\frac{2}{3}$ of the leftover cake. How much of the whole cake did she eat altogether?

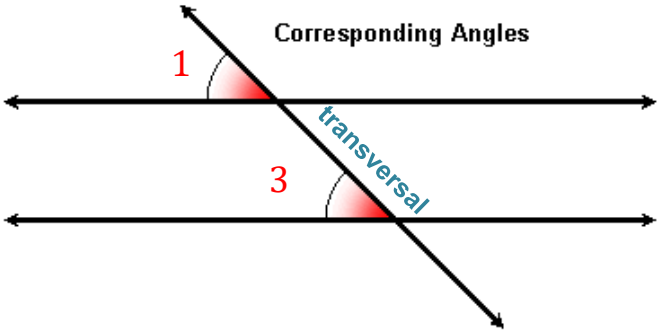
Geometry



Remember vertical angles?

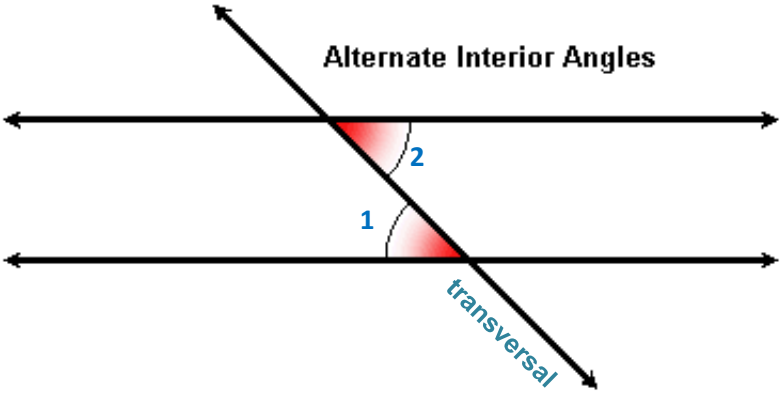
$\angle 1 = \angle 2$

$\angle 3 = \angle 4$



- A **transversal** is a **line** that passes through two **lines** in the same plane at two distinct points.
- The angles in matching corners are called **Corresponding Angles**.
- When the lines are parallel, that the **Corresponding Angles** are equal

$$\angle 1 = \angle 3$$



- The **angles** that are formed on opposite sides of the transversal and inside the two lines are **alternate interior angles**.
- When the lines are parallel, that the **alternate interior angles** are equal.

$\angle 1 = \angle 2$

Find the missing angles