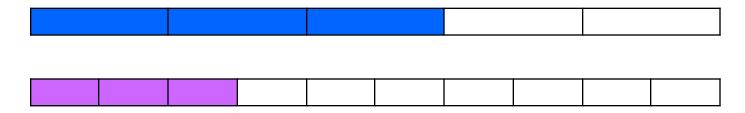## 5.8 Multiplying Fractions

Remember: 3 x 4 means 3 sets <u>of</u> 4. <u>Of</u> means multiply.

3 x 4 = 12

Similarly, $\frac{1}{2}$ x $\frac{3}{5}$ means $\frac{1}{2}$ a set of $\frac{3}{5}$.

$\frac{1}{2}$ set of $\frac{3}{5}$ is _____. Therefore $\frac{1}{2}$ x $\frac{3}{5}$ =

No need to split up.

$\frac{2}{3}$ x $\frac{3}{5}$ means $\frac{2}{3}$ set of $\frac{3}{5}$.

$\frac{2}{3}$ set of $\frac{3}{5}$ is _____ OR _____. Therefore $\frac{2}{3}$ x $\frac{3}{5}$ =

We don't want to draw pictures every time since it is time consuming. What is the short cut?

$$\frac{3}{4} \times \frac{8}{9} \quad = \quad \frac{3 \times 8}{4 \times 9}$$

Multiplying Fractions:

1. Reduce First

2. Multiply the numerators together <u>and</u> multiply the denominators together.

Beware: $\dfrac{4}{5} + \dfrac{2}{3}$ **vs.** $\dfrac{4}{5} \times \dfrac{2}{3}$

Multiply by reducing first.

1. $\dfrac{5}{21} \times \dfrac{14}{15}$

2. $\dfrac{4}{20} \times \dfrac{6}{3}$

3. $5 \times \dfrac{7}{15}$

4. Paige spend $\frac{3}{4}$ of her studying time on math. If she studied for 6 hours, how long did she spend on math?

5.8 Multiplying Fractions Assignment

Multiplying Fractions (A)

Find the value of each expression in lowest terms.

1. $\dfrac{1}{6} \times \dfrac{11}{4}$

5. $\dfrac{11}{5} \times \dfrac{1}{3}$

9. $\dfrac{14}{3} \times \dfrac{1}{5}$

2. $\dfrac{5}{3} \times \dfrac{2}{5}$

6. $\dfrac{3}{4} \times \dfrac{8}{9}$

10. $\dfrac{5}{2} \times \dfrac{2}{7}$

3. $\dfrac{1}{3} \times \dfrac{17}{8}$

7. $\dfrac{7}{6} \times \dfrac{9}{11}$

11. $\dfrac{1}{2} \times \dfrac{7}{4}$

4. $\dfrac{1}{3} \times \dfrac{16}{7}$

8. $\dfrac{5}{4} \times \dfrac{1}{4}$

12. $\dfrac{3}{5} \times \dfrac{3}{8}$

13. Isabella has a dog who weighs 12 pounds. Her cat weighs 1/6 as much as the dog. How many pounds does her cat weigh?

14. Maria found 24 grapes in the refrigerator and at 5/8 of them. How many grapes did she eat?

15. An oak tree has 20 branches. If a tree trimmer cuts 4/10 of them off, how many branches did the trimmer cut?