Write each fraction as a decimal and a percent.

$\frac{3}{20}$ 0.15 15%

In this case, the easiest way to start is to find the percent because the denominator goes into 100 evenly and percent means "out of 100."

Find a common denominator

$\frac{1}{5}$ and $\frac{2}{3}$ 15

x

Is the fraction greater or less than $\frac{1}{2}$? $\frac{6}{13}$

If you split the denominator in half (divide by 2), that would be equal to one half. Then look at your numerator and see if it's bigger or smaller than half of the denominator.

Draw a line $1\frac{3}{4}$ in. long. Erase $\frac{2}{3}$ in. what do you have left?

$$1\frac{3}{4} = 1\frac{9}{12}$$
$$-\ \frac{2}{3} = \frac{8}{12}$$
$$1\frac{1}{12}$$

Add or subtract

$$1\frac{3}{4} = 1\frac{15}{20}$$
$$+\ 3\frac{1}{5} = 3\frac{4}{20}$$
$$4\frac{19}{20}$$

$$3\frac{1}{8} = 2\frac{9}{8}$$
$$-\ 1\frac{3}{4} = 1\frac{6}{8}$$
$$1\frac{3}{8}$$

$$2 - \frac{3}{4}$$

Either add up: think $\frac{3}{4} + ? = 1$ (that's $\frac{1}{4}$)

$1 + ? = 2$ (that's 1), so $\frac{1}{4} + 1 = 1\frac{1}{4}$

OR

$$1\frac{4}{4}$$
$$-\ \frac{3}{4}$$
$$1\frac{1}{4}$$

$3\frac{3}{4} = 2\frac{7}{4}$

If numerator are the same, then the fraction with the smaller denominator is bigger

$\frac{1}{7} > \frac{1}{8}$

If the denominators are the same, the fraction with the bigger numerator is the bigger fraction

$$\frac{3}{8} < \frac{5}{8}$$

other strategies for comparing fractions:

- common denominator
- decimal
- compare to $\frac{1}{2}$

$3\frac{1}{8}$ in. What is 3 times this length?

$3\frac{1}{8} \times 3$

$\frac{25}{8} \times \frac{3}{1} = \frac{75}{8} = 9\frac{3}{8}$

I baked 42 cupcakes. 40% had strawberry frosting. How many had strawberry frosting?

Q. what is 40% of 42?

$$\begin{array}{r} 42 \\ \times \quad .4 \\ \hline 16.8 \end{array}$$

about 17 cupcakes

Multiply

$\frac{5}{8} * \frac{1}{4} = \frac{5}{32}$

$1\frac{2}{3} * 4$

$\frac{5}{3} * \frac{4}{1} = \frac{20}{3} = 6\frac{2}{3}$

$1\frac{2}{5} * 2\frac{1}{2}$

$\frac{7}{5} * \frac{5}{2} = \frac{35}{10} = 3\frac{5}{10} = 3\frac{1}{2}$

$1\frac{1}{2} \div \frac{2}{3}$

$\frac{3}{2} \times \frac{3}{2} = \frac{9}{4} = 2\frac{1}{4}$

$$2\frac{1}{2} \div 6$$

$$\frac{5}{2} \div \frac{6}{1}$$

Don't forget to rewrite the whole number as a fraction before you change the sign and flip the fraction.

$$\frac{5}{2} \times \frac{1}{6} = \frac{5}{12}$$