

Name _____ Date _____

EQUIVALENT FRACTION STRIPS THIRDS

1 WHOLE

$\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$

$\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$

$\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$ $\frac{1}{12}$

$\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$ $\frac{1}{15}$

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Gr. 5 Review

a) $\frac{2}{3} = \frac{\quad}{6}$

b) $\frac{2}{3} = \frac{10}{15}$

Gr. 5 Review

Equivalent Fractions have the same value, even though they may look different.

These fractions are really the same:

$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$$

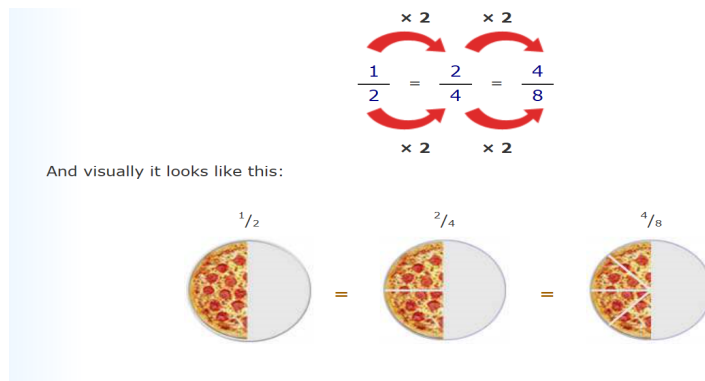
To get equivalent fractions you MUST

multiply or divide both the top and bottom **by the same number.**

The rule to remember is:

"What you do to the top you must do to the bottom"

Here is why those fractions are really the same:

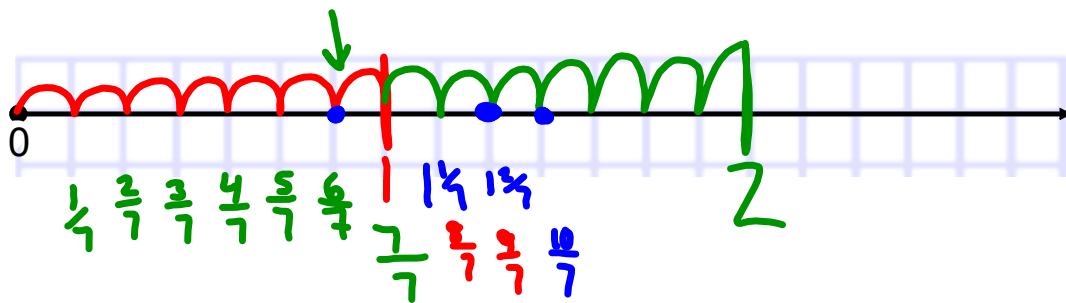


When comparing fractions with the same denominators and placing them on a number line.

Make sure the number line is cut into equal pieces which happens to be the denominator.

Compare $\frac{6}{7}$, $1\frac{2}{7}$, $\frac{10}{7}$ Place them on the number line

Hint: Denominator is 7, so it takes 7 jumps to get to 1 whole



Mixed \rightarrow has whole and fractional part

$2 \frac{1}{4}$
 \uparrow whole \leftarrow fraction

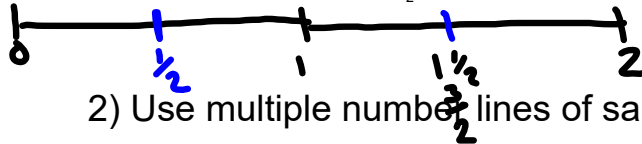
Improper \rightarrow top # larger than bottom

When comparing fractions of different denominators...

Important! Take all fractions to the same form
(all mixed or all improper)

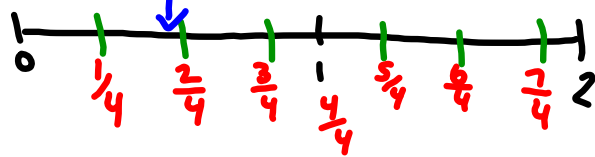
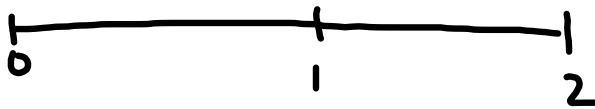
Then there is 3 methods to choose from

1) Benchmarks (0, $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2 and so on)



2) Use multiple number lines of same lengths

3) Equivalent Fractions (Find common denominators and compare numerators)



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

Ex) $\frac{3}{4} \xrightarrow{\times 2} \frac{6}{8}$ compare to $\frac{1}{8}$

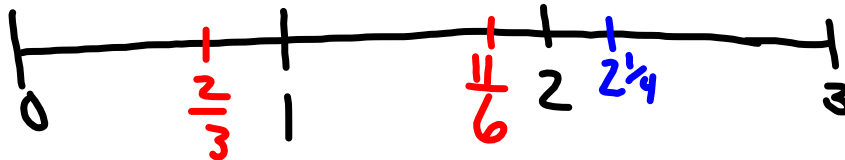
Strategy #1 – USING BENCHMARKS AND ESTIMATION

place $2\frac{1}{4}$, $\frac{2}{3}$, and $\frac{11}{6}$ on a number line.

$$11 \div 6 = 1 \text{ R}5 \\ \frac{5}{6}$$

change to Mixed
 $2\frac{1}{4}$, $\frac{2}{3}$, $1\frac{5}{6}$
 Bigger than 2 smaller than 1 Bigger than 1

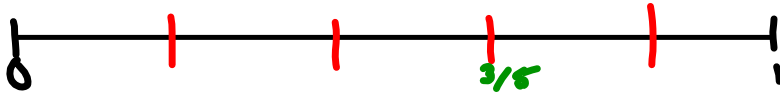
- $\frac{2}{3}$ is between 0 and 1 but closer to 1
- $\frac{11}{6}$ is the same as $1\frac{5}{6}$ is close to 2 but smaller than 2
- $2\frac{1}{4}$ is a little bigger than 2



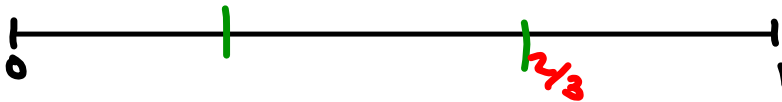
$$\frac{3}{5} \quad \frac{2}{3} \quad \frac{8}{10}$$

Draw three number lines the same length

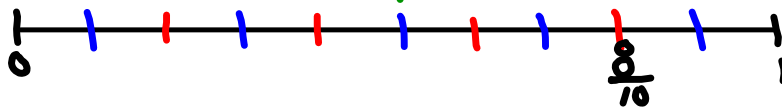
$\frac{3}{5}$ First number line is cut into 5 pieces (make 4 cuts all equal)



$\frac{2}{3}$ Second number line is cut into 3 pieces



$\frac{8}{10}$ Third number line is cut into 10 pieces



Divide the third number line to show sixths.



Strategy #3 – WRITE EACH NUMBER AS AN EQUIVALENT FRACTION WITH THE SAME DENOMINATOR.

place $2\frac{1}{4}$, $\frac{2}{3}$, and $\frac{11}{6}$ on a number line.

Mixed Improper

- Maggie wrote $2\frac{1}{4}$ as an improper fraction: $2\frac{1}{4} =$
 Since 12 is a multiple of 3, 4, and 6,

$$= \frac{9}{4}$$

- she wrote each fraction with denominator 12.

$$\frac{9}{4} = \frac{27}{12} \quad \frac{2}{3} = \frac{8}{12} \quad \frac{11}{6} = \frac{22}{12}$$

(Note: The diagram shows conversion factors: $\frac{9}{4} \xrightarrow{\times 3} \frac{27}{12}$, $\frac{2}{3} \xrightarrow{\times 4} \frac{8}{12}$, and $\frac{11}{6} \xrightarrow{\times 2} \frac{22}{12}$)

- Draw a number line from 0 – 3 and divide the number line to show twelfths.



For each pair of numbers below:

Which strategy did you use? Benchmarks or Common denominators

Which number is the greatest?

Both bigger than 4

a) $4\frac{3}{4} > 4\frac{7}{16}$

Just look at fraction part

$\frac{3}{4} \times 4 = \frac{12}{16}$

$4\frac{12}{16}$

b) $\frac{11}{6} > 1\frac{9}{12}$

Need to be both mixed or both improper

Mixed $\frac{11}{6}$

$1\frac{5}{6} \times 2 = 1\frac{10}{12}$

$1\frac{10}{12} > 1\frac{9}{12}$

b) OR Method 2

$\frac{11}{6} > 1\frac{9}{12}$

↓ Change Improper

$2 \times \frac{11}{6} > \frac{21}{12}$

$\frac{22}{12} > \frac{21}{12}$

$$\frac{3}{8}, \frac{2}{12}$$

Multiples
of 8
8, 16, 24, 32, 40...

$$\frac{3}{8} = \frac{9}{24}$$

(Note: Green arrows show 3 multiplied by 3 to get 9, and 8 multiplied by 3 to get 24.)

$$\frac{2}{12} = \frac{4}{24}$$

(Note: Red arrows show 2 multiplied by 2 to get 4, and 12 multiplied by 2 to get 24.)

Multiples of 12
12, 24, 36...

Bigger

24 is the common
Denominator

To find common denominators, you will list the multiples of each denominator.

Circle the lowest common multiple. This is your new denominator.

Ex) $\frac{3}{8}$ $\frac{2}{12}$

Not the same
Write multiples of 8 - 8, 16, 24, 32, 40...
Write multiples of 12 - 12, 24, 36

New Denominator is 24

$$\frac{3}{8} \overset{\times 3}{=} \frac{9}{24}$$

Bigger

$$\frac{2}{12} \overset{\times 2}{=} \frac{4}{24}$$