



# Rational Numbers



- any number that can be written as fraction

$$\frac{1}{2} \quad -\frac{7}{11}$$

- any number that ends  $2 \quad 2.5$

- any decimal number that repeats

$$2.333\dots \quad 2.\bar{3} \quad 0.\bar{6}3$$

$$4 \times (-3) = -12$$

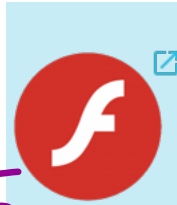
$$-10 - (-1) = -9$$

how many  $\frac{1}{7}$  are  
in  $2\frac{1}{7}$

$$\frac{15}{7}$$

15

# Changing fractions to decimals...

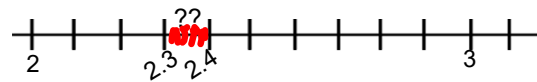


Express each fraction as a decimal, then sort as a repeating or terminating decimal.

**Repeating** **Terminating**

$\frac{-5}{9} = -0.\overline{5}$      $\frac{6}{27} = \frac{2}{9} = 0.\overline{2}$   
 $\frac{27}{33} = \frac{9}{11} = 0.\overline{81}$      $\frac{-8}{5} = -1.6$   
 $\frac{20}{-10} = -2$      $\frac{18}{12} = \frac{3}{2} = 1.5$

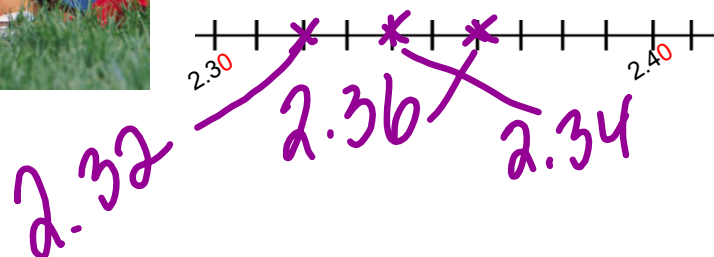
$\frac{-5}{9}$      $\frac{6}{27}$      $\frac{-8}{5}$      $\frac{-8}{5}$   
 $\frac{6}{27}$      $\frac{20}{-10}$      $\frac{18}{12}$

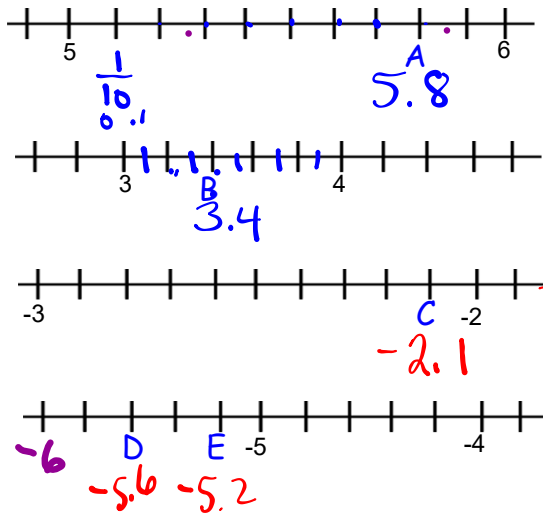


Hint... Add a zero place holder at the end of the decimal.

2.30

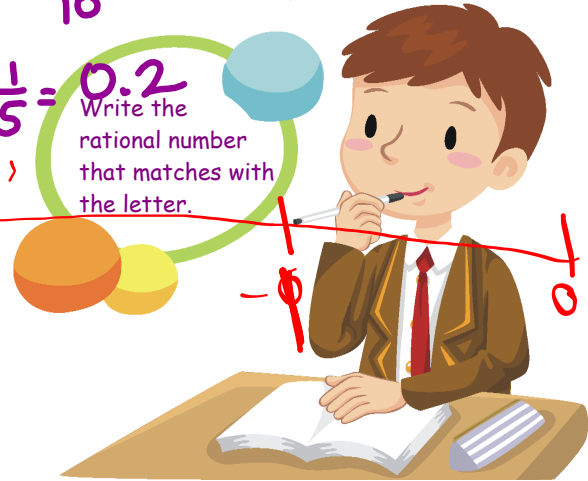
2.40





$\frac{1}{10}$  or 0.1

$\frac{1}{5} = 0.2$   
Write the rational number that matches with the letter.



1. Change the fractions to decimals.

$\frac{2}{5} = 0.4$

$\frac{3}{4} =$

0.75

0.40

0.75

0.5 0.64  
0.6 0.7



What numbers are between  $\frac{3}{4}$  and  $\frac{2}{5}$ ?

There are two ways!



2. Write the fractions with common a denominator.

$\frac{2}{5} \times 4$

$\frac{3}{4} \times 5$

$\frac{8}{20}$

$\frac{15}{20}$

Switch both so they have the same # on the bottom

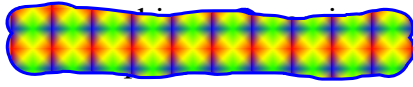
$\frac{9}{20} \quad \frac{10}{20} \quad \frac{11}{20}$

Find two rational numbers between...

(Decimals may be used on this side.)

$\frac{-3}{8}$        $\frac{-4}{8}$   
 $-0.375$        $-0.500$   
 ☆                  ☆  
 $-0.276$   
 $-0.377$   
 $-0.499999$

(NO Decimals please!!.)

$\frac{5}{8} \times 8$        $\frac{6}{8} \times 8$   
 $\frac{5}{8} \times 8$        $\frac{6}{8} \times 8$   
  
 ☺                  ☺  
 $\frac{40}{64}$                $\frac{48}{64}$   
 $\frac{41}{64}$                $\frac{42}{64}$

Show your work!

Show your work!

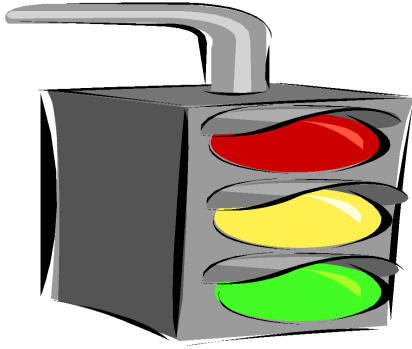
Which rational number is larger??

(Decimals may be used on this side.)

Which one is closer to zero (-).  
 $\frac{-12}{15}$        $\frac{-13}{16}$   
 $-0.8000$        $-0.8125$   
 ●                  ●  
 $-0.8000 > -0.8125$   
 greater than  
 $12 \div 3$   
 $15 \div 3$

(NO Decimals please!!.)

$\frac{2}{3} \times 4$        $\frac{3}{4} \times 3$   
 $\frac{2}{3} \times 4$        $\frac{3}{4} \times 3$   
 $\frac{8}{12}$                $\frac{9}{12}$   
 ☆                  ☆  
 ☆                  ☆



# Homework

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5,6ac,7ad, 8ac, 10cd,

12af, 16bf, 21