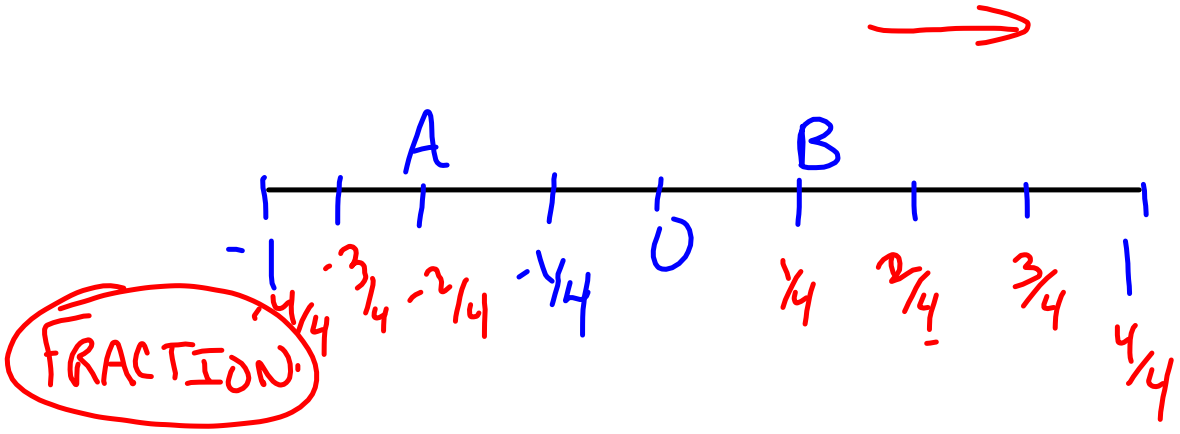
Warm-Up September 15,2016



3.2 Adding Rational Numbers

Add the following...

a. $3+7 = 10$

b. $-3+7 = 4$

c. $-3 + (-7) = -10$

d. $3 + (-7) = -4$

Remember to add fractions [rational numbers] you need COMMON DENOMINATORS!

$$\frac{\times 5\ 2}{\times 5\ 3} + \frac{1\ \times 3}{5\ \times 3}$$

$$\frac{10}{15} + \frac{3}{15}$$

$$\frac{13}{15}$$

"count" by

Remember **L**owest **C**ommon **M**ultiple

3, 6, 9, 12, 15, 18

5, 10, 15, 20 . . .

B. $\frac{2}{3} + \frac{1}{-5}$

$\frac{2}{3}\times\frac{5}{5} + \frac{-1}{5}\times\frac{3}{3}$

$\frac{10}{15} + \frac{-3}{15}$

$\frac{7}{15}$

Let's try adding rationals.

"count by"

LCM

8, 16, 24, 32

2, 4, 6, 8

C. $\frac{-5}{8} + \frac{7}{-2}$

$\frac{-5}{8} + \frac{-7}{2}\times\frac{4}{4}$

$\frac{-5}{8} + \frac{-28}{8}$

$\frac{-33}{8}$

$\frac{-5}{8}\times\frac{2}{2} + \frac{-7}{2}\times\frac{8}{8}$

$\frac{-10}{16} + \frac{-56}{16}$

What about mixed numbers
that are negative???

Change each of the following into mixed numbers: Be careful when there is a negative!!!!!!!!

a) $\frac{23}{7} = 3\frac{2}{7}$

b) $\frac{12}{9} = 1\frac{3}{9} = 1\frac{1}{3}$

c) $-\frac{23}{7} = -3\frac{2}{7}$

d) $\frac{62}{-8} = -\frac{62}{8}$

$-7\frac{6}{8}$

$-7\frac{3}{4}$

Mixed number → improper fraction

a) $2\frac{3}{4} = \frac{11}{4}$

b) $4\frac{1}{3}$ $\frac{13}{3}$

c) $-2\frac{3}{4} = \frac{-11}{4}$

d) $-3\frac{2}{3}$ $\frac{-11}{3}$

$$\frac{-4}{3} + \frac{6}{-7}$$

$$\frac{-4}{3}\frac{\times 7}{\times 7} + \frac{-6}{7}\frac{\times 3}{\times 3}$$

$$\frac{-28}{21} + \frac{-18}{21}$$

$$\frac{-46}{21} = -2\frac{4}{21}$$

$\left(-\frac{1}{4}\right) + 2\frac{1}{6}$

$-\frac{1}{4} + 2\frac{1}{6}$

$\frac{x^3}{x^3} \cdot -\frac{1}{4} + \frac{13}{6} \cdot \frac{x^2}{x^2}$

$\frac{-3}{12} + \frac{26}{12} = \frac{23}{12} = 1\frac{11}{12}$

$-3\frac{1}{3} + 2\frac{5}{6}$

$\frac{x^2}{x^2} \cdot -\frac{10}{3} + \frac{17}{6}$

$\frac{-20}{6} + \frac{17}{6} = \frac{3}{6} = \frac{1}{2}$

g) $\frac{7}{8}$

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#11 a, c, e, g

a) $\frac{-1}{6}$

c) $-3\frac{19}{20}$

e) $-4\frac{1}{12}$

g) $\frac{7}{8}$