

dec 9, 2020

Lesson 7: Locating Improper Fraction and Mixed Numbers on Number Line

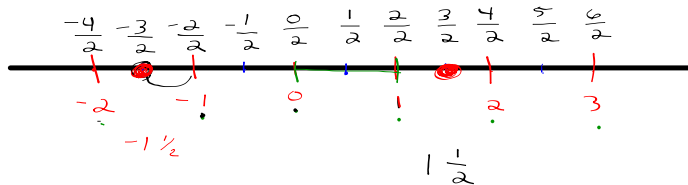
Recall: improper fraction: has numerator greater than denominator. ex: $\frac{24}{4}$ ←

Mixed number: a mix between an integer and a fraction.
(a whole #) ex. $2\frac{1}{4}$

P 5.14

Ex. 5.

★ Locate $\frac{3}{2}$ on the # line



step i. Construct # line going up by 1 (on lower side)

step ii. Divide each unit into as many parts as denominator
→ go up by unit fraction on top side. $\frac{1}{2}$ ←

★ Locate $-1\frac{1}{2}$

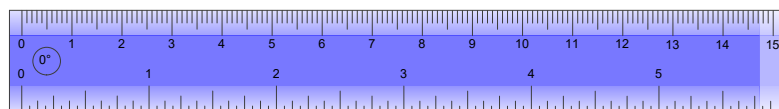
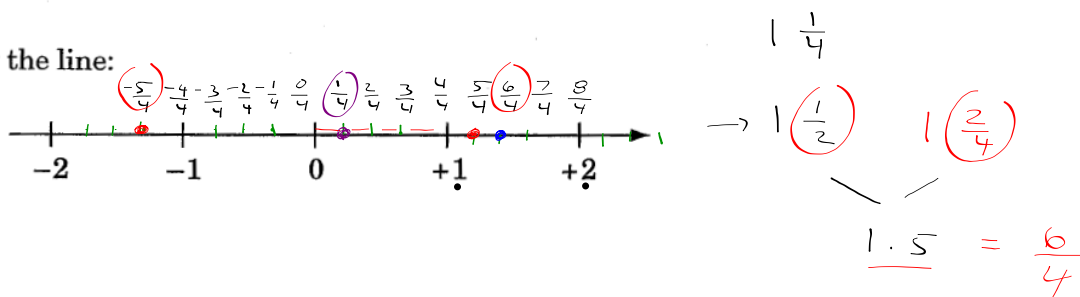
-1 and $-\frac{1}{2}$

Do example b) p 5.14 till 5.18
Do 2nd handout

b) Locate $-\frac{5}{4}$ and $+\frac{1}{4}$ on a horizontal number line.

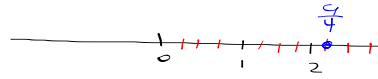
N.B. Proceed in the same way for negative improper fractions.

1. Draw the line:



Converting Mixed Numbers into Improper Fractions

example: convert to improper fraction



$$2 \frac{1}{4} \quad \text{2 and } \frac{1}{4}$$

step i. Read mixed # and change "and" to +

$$\frac{4 \times 2}{4 \times 1} + \frac{1}{4}$$

step ii. Give the integer a denominator of 1 and add fractions. (same steps as L6)

a. get same LCD
LCD = 4

b. add tops and write bottom once.

$\frac{2}{0} = \text{error}$
 $\frac{2}{1} = 2$ ✓
 $\frac{2}{2} = 1$

$$\frac{8}{4} + \frac{1}{4}$$

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

← how many parts you have
← how whole is broken up

example: convert to improper fraction

$$3 \frac{2}{3} \quad \text{this reads } 3 \text{ and } \frac{2}{3}$$

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

$$\frac{9}{3} + \frac{2}{3}$$

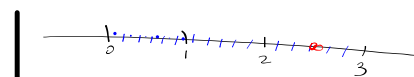
$$\frac{9 + 2}{3}$$

$$\frac{11}{3}$$

$$11 : 11, 1$$

$$3 : 3, 1$$

Do 3rd handout
start at Ex 4.2 pg 4.9



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

$$\frac{6 \times 2}{6 \times 1} + \frac{1}{3}$$

$$\frac{12}{6} + \frac{2}{6}$$

$$\frac{15}{6} \div 3$$

$$\frac{5}{2}$$

$$15 : 1, 3, 5, 15$$

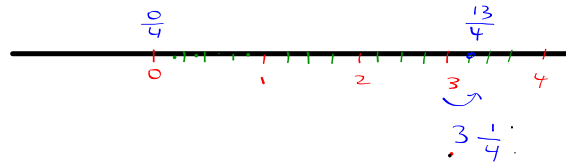
$$6 : 1, 2, 3, 6$$

Move on w̄ new stuff
@ 1:15 pm.

Converting Improper Fraction to Mixed Numbers

example: convert to mixed #

$$\frac{13}{4}$$



denominator →

$$\begin{array}{r} 3 \\ 4 \overline{) 13} \\ \underline{- 12} \\ 1 \end{array}$$

quotient/integer →

remainder → 1

numerator →

how many full fours are in 13?
 $\frac{13}{4} = 3.25$
 There are 3 fours in 13.

step i: Do long division 13 by 4

step ii: Write mixed #

$$(\text{int}) \frac{(\text{num})}{(\text{den})}$$

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

step iii: Reduce fractional part if possible.

example: convert to mixed number

d →

$$\begin{array}{r} 2 \\ 4 \overline{) 10} \\ \underline{- 8} \\ 2 \end{array}$$

n →

$$\frac{10}{4} = 2.5$$

$$(\text{int}) \frac{(\text{num})}{(\text{den})}$$

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

$$\boxed{2 \frac{1}{2}}$$