M-A1 Algebra 1 Week 11 11/28

$8(8+5m) = 4(m-2)$

$64 + 40m = 4m - 8$

$-4m \quad -4m$

$64 + 36m = -8$

$-64 \quad -64$

$\frac{36m}{36} = \frac{-72}{36}$

$\boxed{m = -2}$

1.) $3 + 5(5-3b) = -5 + 3(4b+2)$

$3 + 25 - 15b = -5 + 12b + 6$

$28 - 15b = 12b + 1$

$-12b \quad -12b$

$28 - 27b = 1$

$-28 \quad -28$

$\frac{-27b}{-27} = \frac{-27}{-27}$

$\boxed{b = 1}$

2.) $-8a + 7(a-5) = -3(7-2a)$

$-8a + 7a - 35 = -21 + 6a$

$-a - 35 = -21 + 6a$

$-6a \quad -6a$

$-7a - 35 = -21$

$+35 \quad +35$

$\frac{-7a}{-7} = \frac{14}{-7}$

$\boxed{a = -2}$

A train leaves the station traveling 60 mi/h. Nate, on a big wheel tricycle, leaves the same station traveling 80 mi/h one hour later. How long until Nate and his big wheel catches the train?

$D_T = D_N$

$D = RT$

distance = rate * time

$60t = 80(t-1)$

Head start * speed = distance

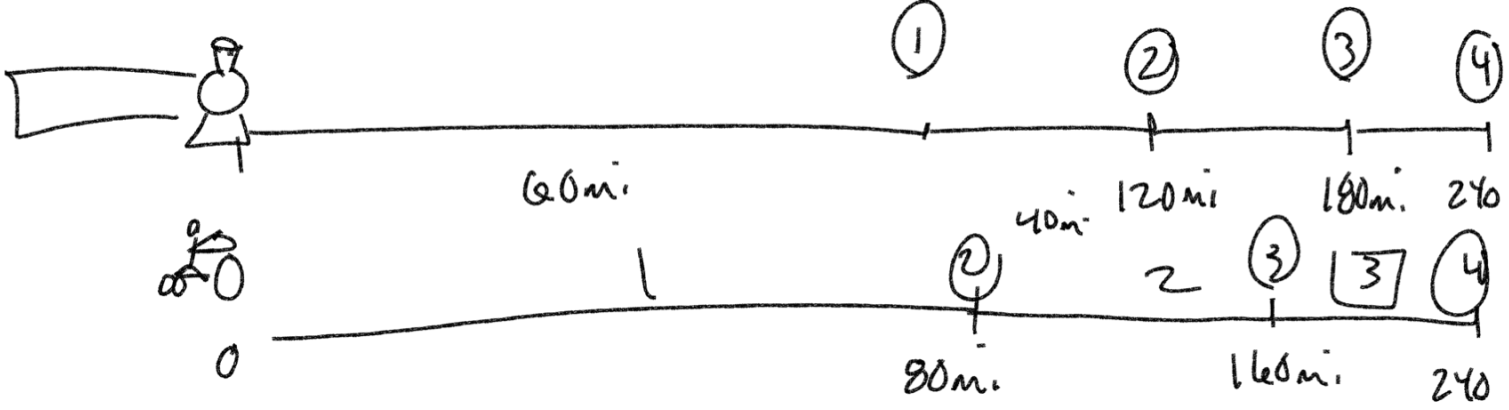
1 hr * 60 mi/h = 60 miles

Head start

Relative Rate

Relative rate = Fast − slow

$\frac{\text{Head start}}{\text{relative rate}}$ $\frac{60}{20}$ = 3



Grilled cheese samich (object #1) travels at 50 mi/hr (rate of speed)

(Lactose-intolerant) Hungry Hungry Hippo (object #2) traveling at 500 mi/hr (rate of speed)

leaves after 40 hours (hours). How long until they crash?

Head start distance:

$50 \text{ mi/hr} * 40 \text{ hrs} = 2000 \text{ mile}$

Relative Rate $500 - 50 = 450 \text{ mi/hr}$ $\frac{2000}{450} = \boxed{4.\overline{4} \text{ hrs}}$

$$50t = 500(t-40)$$

Roided Brawn CW travels 80 mi/hr east while.
object #1 ros

Fermit the Krog travels 240 mi/hr west. If
obj #2 ros

they leave at the same time, how long until they are 1600 miles apart?
miles

Relative Rate: 80 + 240 = 320 mi/hr

opp directions ⊕ $\frac{1600 \text{ miles}}{320 \text{ mi/hr}}$ = **5 hours**

same direction ⊖