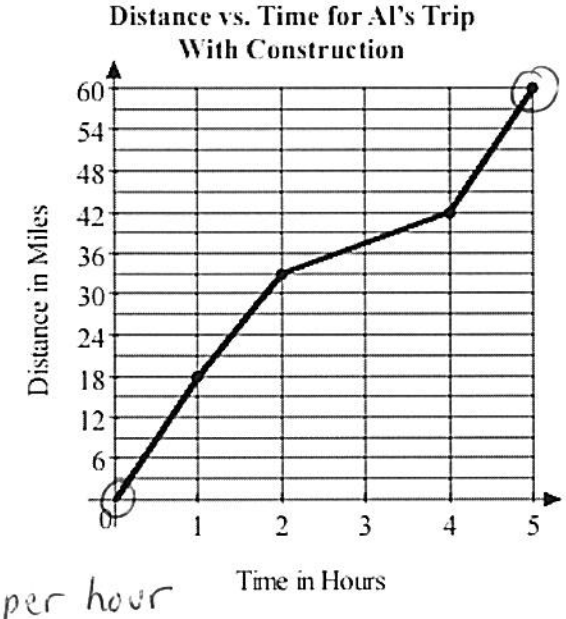
Algebra I - Midterm Review (Day 4)

Do Now:

1. Al is an avid cyclist. On a recent ride, Al encountered some road construction which caused his speed to vary as shown in the graph below.



What was Al's average speed for the time interval $0 \le t \le 5$?

(0,0) (5,60)

$\frac{\Delta y}{\Delta x} = \frac{60-0}{5-0} = \frac{12 \text{ miles}}{1 \text{ hour}}$ 12 miles per hour

2. The mathematics department sponsors Math Family Fun Night every year. In the first year, there were 35 participants. In the third year, there were 57 participants.

(1,35) (3,57)

(a) Write an equation that can be used to predict the number of participants, y, for any given year, x.

(x , y)

year participants

x , y

(1, 35)

$\frac{\Delta y}{\Delta x} = \frac{57-35}{3-1} = \frac{22}{2} = \frac{11}{1}$

$y = mx + b$

$35 = 11(1) + b$

$35 = 11 + b$

$24 = b$

$y = 11x + 24$

(b) Based on your equation, how many participants are predicted for the fifth year?

$x = 5$

$y = 11x + 24$

$y = 11(5) + 24$

$y = 79$

79 participants