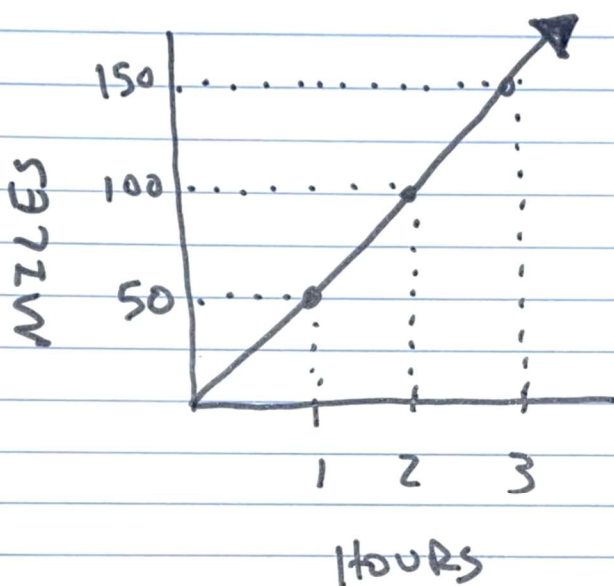


## Lesson 3-1 → Proportional Relationships to Linear Relationships

7<sup>th</sup> grade was all about proportional relationships



All lines were  
① Straight, and  
② started at (0,0)

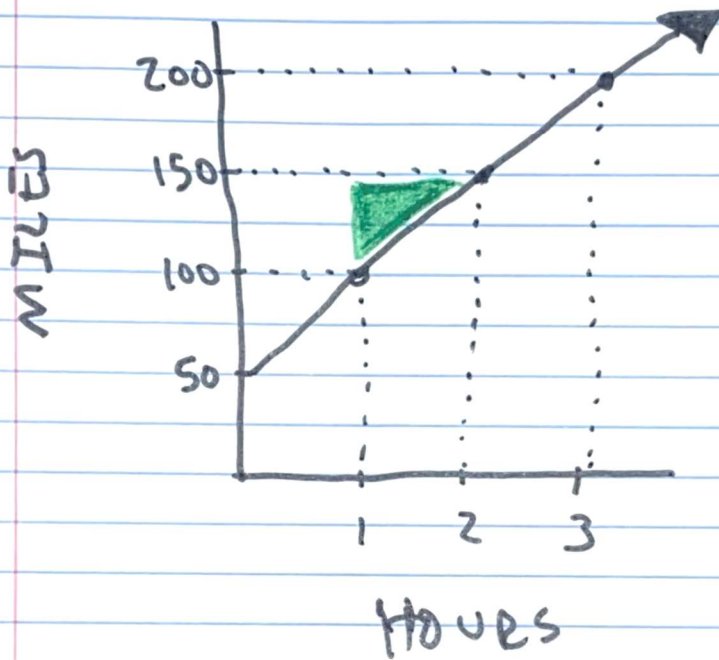
Steepness was measured by

$$\frac{Y}{X} = \frac{150}{3} = \frac{100}{2} = \frac{50}{1} = 50$$

rate is 50 miles per hour

Constant of proportionality = 50

8<sup>th</sup> grade is all about  
linear relationships



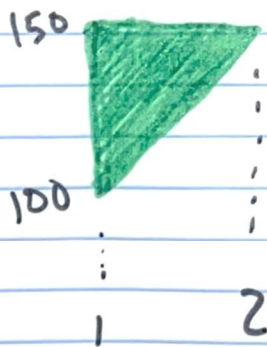
Lines are  
still straight

BUT

They no longer  
must include  
the origin (0,0)

Steepness is NO LONGER  $y/x$

Steepness is Now SLOPE or  $\text{Rise}/\text{Run}$



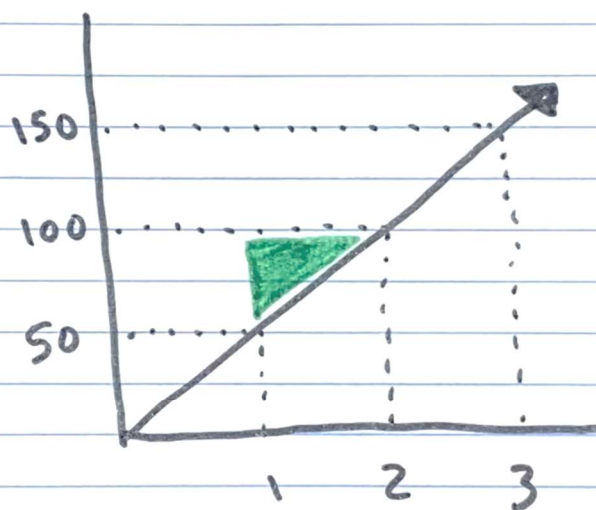
$$\frac{\text{Rise}}{\text{Run}} = \frac{50}{1} = 50$$

Speed is still 50 miles  
per hour

And now for some good news!

We can use  $\frac{\text{Rise}}{\text{Run}}$  for

proportional relationships too



$$\frac{\text{Rise}}{\text{Run}} = \frac{50}{1} = 50$$