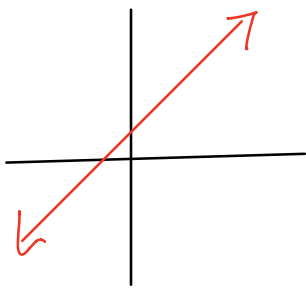
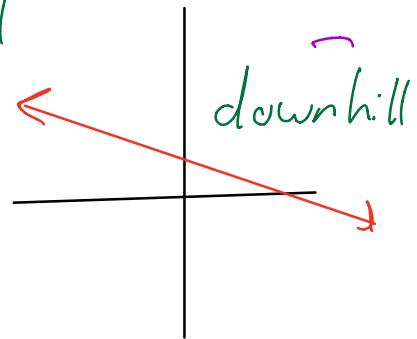


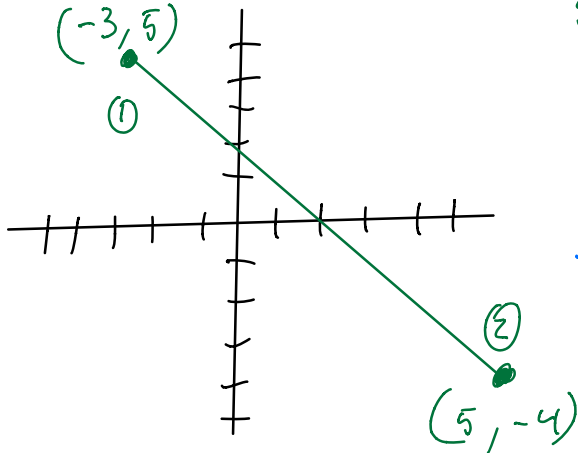
Slope: How steep a line is.



steep uphill  
+



Example Calculation:



$$\text{slope} = \underline{m} \quad [y = \underline{m}x + b]$$

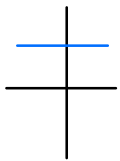
=  $\frac{\text{How far up}}{\text{how far over}}$

$\frac{\text{rise}}{\text{run}}$  =  $\frac{\text{height of the hill}}{\text{length of the hill}}$

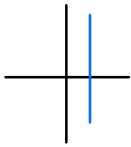
$$= \frac{\Delta y}{\Delta x} \rightarrow \Delta \text{ "change in" } \\ \text{ "final - initial" }$$

$$= \frac{y_2 - y_1}{x_2 - x_1} \Rightarrow \frac{-4 - 5}{5 - (-3)}$$

$$= \frac{-9}{8} \leftarrow \text{slope!!}$$



$$m = 0$$



$$m = \text{undefined}$$

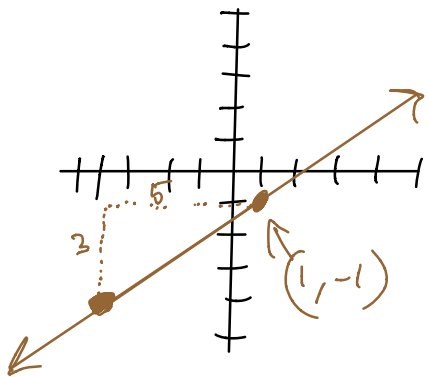
$$2a) P_1(-6, 0) \quad P_2(0, 4)$$

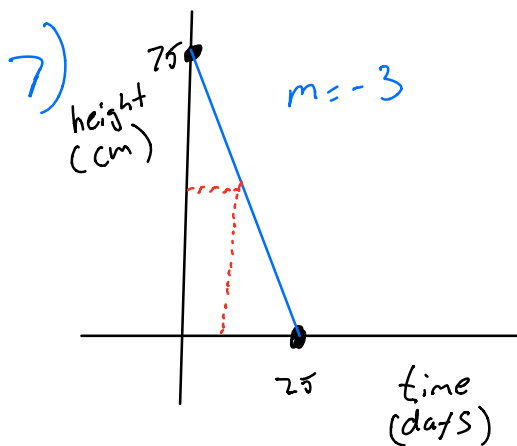
$$\begin{aligned} m &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{4 - 0}{0 - (-6)} \\ &= \frac{4}{6} = \left(\frac{2}{3}\right) \ddot{\cup} \end{aligned}$$

$$3b) m = \frac{y_2 - y_1}{x_2 - x_1} \quad P_1(1, 12) \quad P_2(6, 12)$$

$$\begin{aligned} &= \frac{12 - 12}{6 - 1} \\ &= \frac{0}{5} \\ &= 0 \end{aligned}$$

$$4b) m = \frac{y_2 - y_1}{x_2 - x_1} \quad P_1(-4, -4) \quad m = \frac{3}{5} = \frac{\text{rise}}{\text{run}}$$





- a) how high the snow is on the given day.
- b) zero snow left.
- c)  $m$  means the rate of melting.