

Obj. How do you measure change? 9/6/12

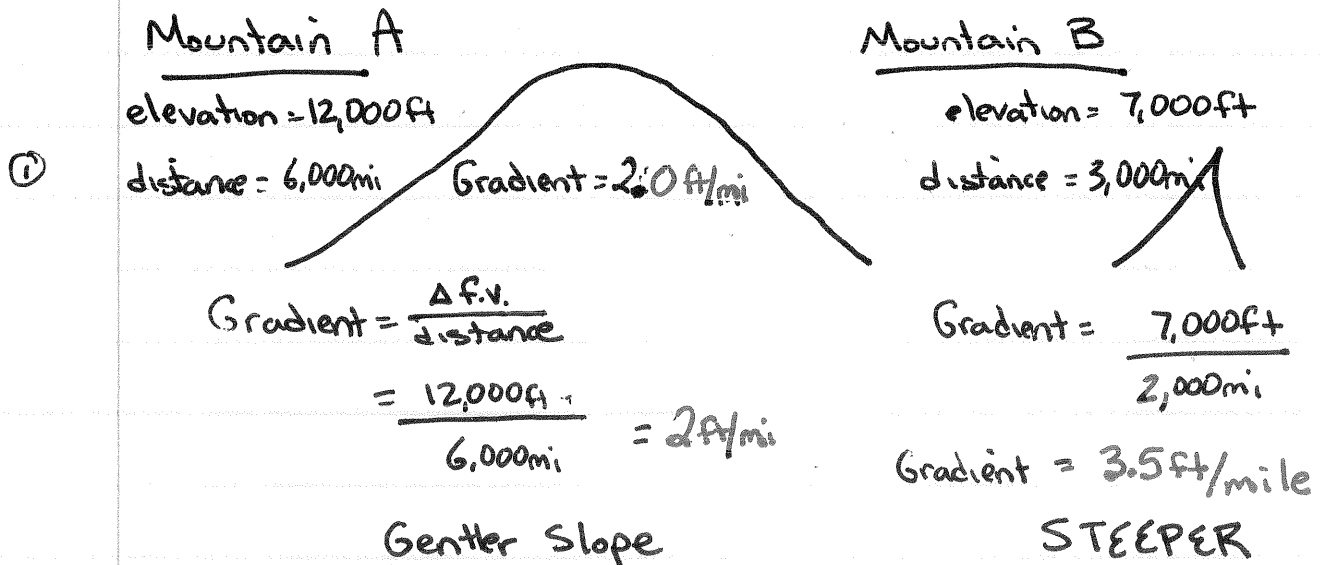
Gradient - Change in elevation over distance

* ESRT p. 1 *

$$\text{Gradient} = \frac{\Delta \text{ in field value}}{\text{distance}}$$

Δ = change (slope)

Gradient shows how steep a slope is.



②

Gradient Base = 5,000 ft
Top = 10,000 ft
Distance = 3 miles

$$\text{Gradient} = \frac{10,000 \text{ ft} - 5,000 \text{ ft}}{3 \text{ miles}} = \frac{5,000 \text{ ft}}{3 \text{ miles}} = 1666.7 \text{ ft/mile}$$

- ③ Base = 5,000 ft
Top = 10,000 ft
Distance = 8 miles

$$\text{Gradient} = \frac{10,000\text{ft} - 5,000\text{ft}}{8 \text{ miles}} = \boxed{625 \text{ ft/mile}}$$

- ④ Calculate the gradient of a mountain from point A to point B. A has an elevation of 100ft. B has an elevation of 500ft. The distance from A to B is 20 miles.

$$\begin{array}{l} A = 100\text{ft} \\ B = 500\text{ft} \\ \text{Distance} = 20\text{miles} \end{array} \left. \vphantom{\begin{array}{l} A = 100\text{ft} \\ B = 500\text{ft} \\ \text{Distance} = 20\text{miles} \end{array}} \right\} \text{Gradient} = \frac{500\text{ft} - 100\text{ft}}{20\text{miles}} = \frac{400\text{ft}}{20\text{mile}} = \boxed{20 \text{ ft/mile}}$$

HW- Get supplies

Sign class policy

Study for quiz: Graphing Relationships + Gradient