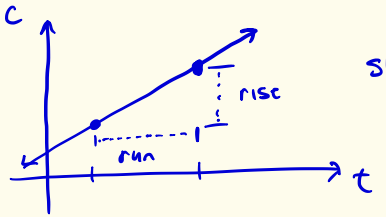
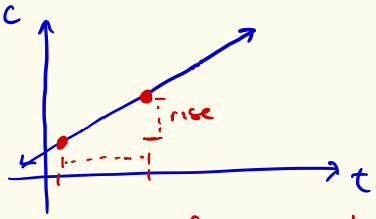
Next part is "Change"

Consider the graph $c(t)$ = cost as function of time.



$$\text{slope} = m = \frac{\text{rise}}{\text{run}} = \frac{\Delta c}{\Delta t}$$

We get the same slope no matter what 2 points on the line we pick

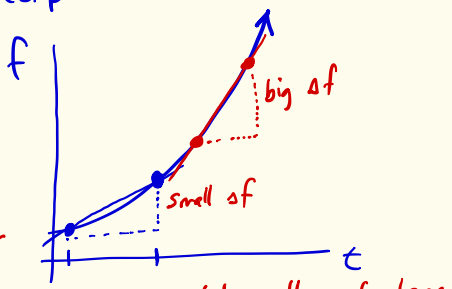


points differ, but ratio will be the same

Observations:

- straight line – so a linear function
- linear function is $c(t) = mt + b$
  - m: slope $= \frac{\text{rise}}{\text{run}} = \frac{\text{change in } c}{\text{change in } t}$
  - b: y-int (initial cost)
- linear function has a constant slope

Compare this to



more complicated pattern of change the way f changes is actually changing over time

Calculus is designed to help us:
- measure
- describe
- predict

how change occurs.