Acceleration is:

rate that vel. Δ

3 ways:

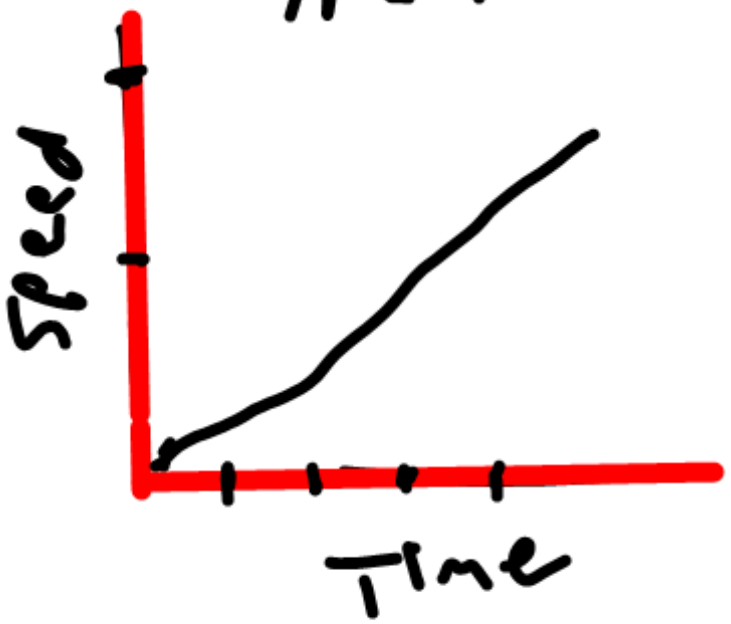
- $\uparrow$ Speed
- $\downarrow$ Speed
- Δ direction

$$\frac{\frac{m}{s}}{s} = \frac{m}{s^2}$$

$$\frac{\frac{1}{2}}{\frac{1}{4}} \qquad \frac{1}{2} \cdot \frac{4}{1} = \frac{4}{2} = 2$$

$$= 2 \qquad \frac{\frac{m}{s}}{\frac{s}{1}} \qquad \frac{m}{s} \cdot \frac{1}{s} = \frac{m}{s^2}$$

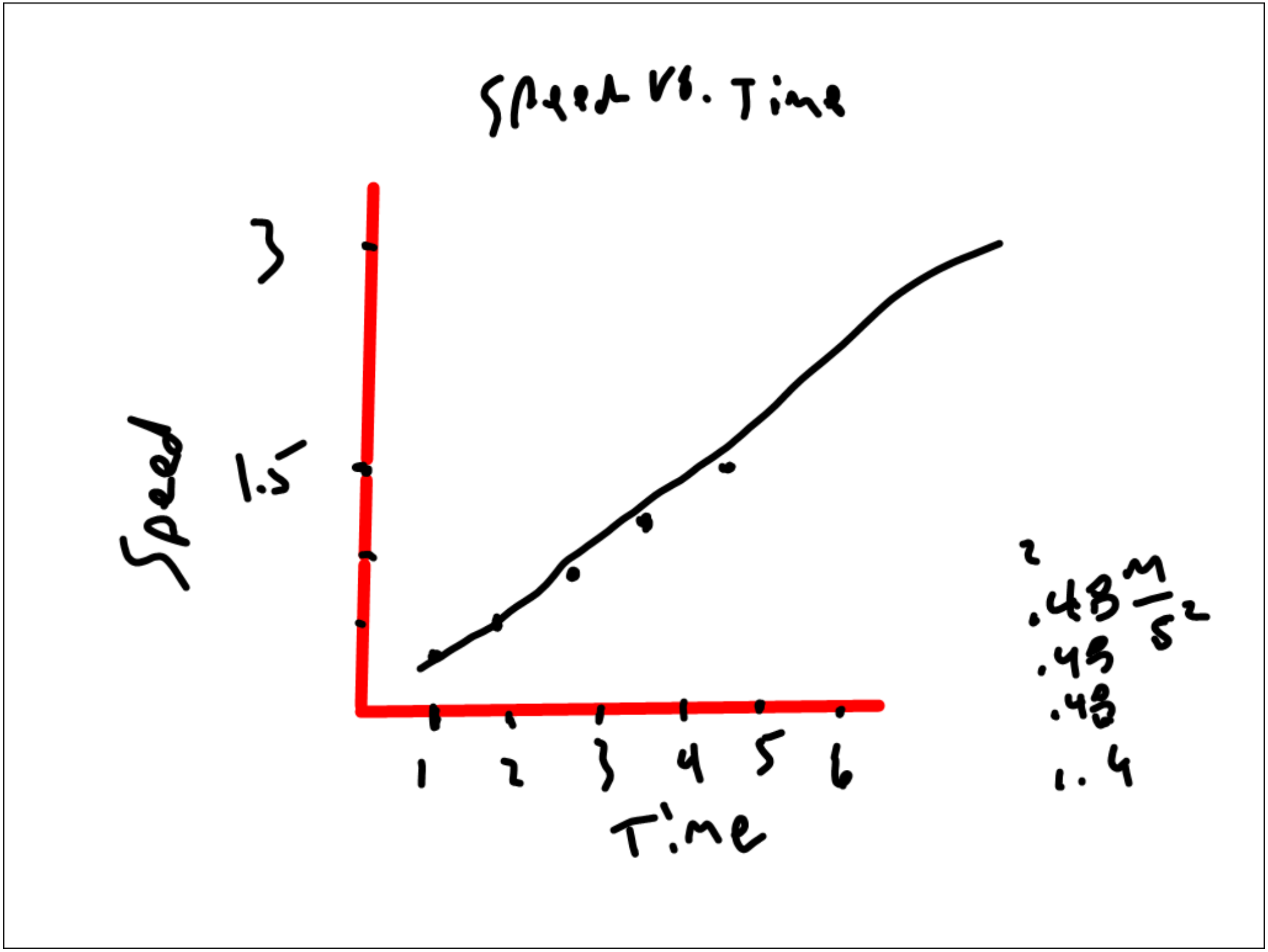
Speed vs. Time



linear

Distance vs Time

non-linear


Speed vs. Time
Speed
3
1.5
1
2
3
4
5
6
Time
2
.48 m/s²
.48
.48
1.4

$\frac{6\text{m}}{5\text{ sec}}\ d/t$ (Avg. Speed) $= 1.2\ \frac{\text{m}}{\text{s}}$

$$\frac{(2.4) - (0)}{\text{Time (5)}} = \frac{\text{Final speed} - \text{Initial speed}}{\text{Time (5)}} = \frac{2.4}{5} = .48\ \frac{\text{m}}{\text{s}^2}$$