

# Applications of Derivatives

→ Curve sketching

- Critical numbers

- Relative extremes

vs.

Absolute extremes

- Increasing vs. Decreasing

- Concavity

- Mean value Theorem

**MVT**

→ The instant slope = average slope at some point.

- 2pm: <sup>Tesla</sup> car entered highway. <sup>to 11.</sup> (speed limit: 55)

- 3pm: left highway, 60 miles down road.

$$\rightarrow s(0) = 0$$

$$s(1) = 60$$

$$\frac{60 - 0 \text{ m}}{1 - 0 \text{ h}} = 60 \text{ mph (avg.)}$$

