Graphing

1

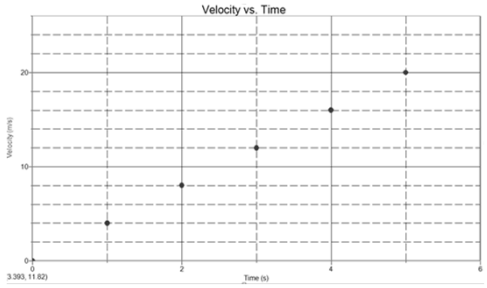
Why Graph?

- In general, graphs combine data into clearly visible relationships.
- These relationships also help us predict the results of other situations, not yet tested.
- For example:

2

What was the car's speed at 2.5 seconds?

What would it be at 6 seconds?



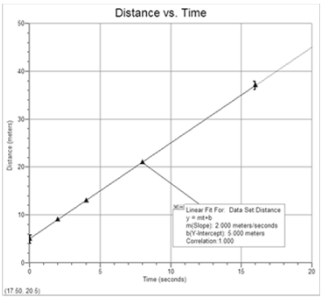
3

Parts of a Graph

- When grading graphs, I will look for:
  - Axes
  - Labels
  - Title
  - Data Points
  - Best Fit Line or Curve
  - Orientation

4

Using Graphical Analysis



5

Axes & Variables

- X-Axis
  - Independent Variable:
- Y Axis
  - Dependent Variable:

6

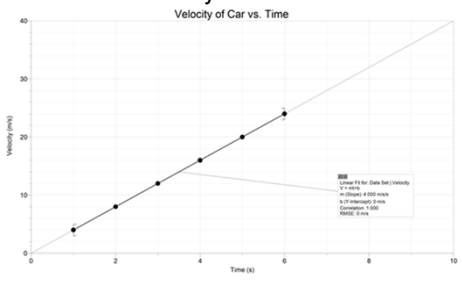
Variable Relationships - Generalizations

- Direct Relationships
  - As one variable increases, the other increases
  - As one variable decreases, the other variable decreases
- Inverse/Indirect Relationships
  - As one variable increases, the other decreases
  - As one variable decreases, the other variable increases

7

Variable Relationships

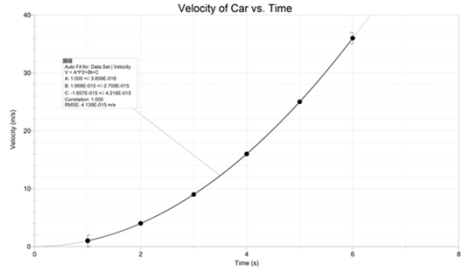
Linear: $y = mx + b$



8

Variable Relationships

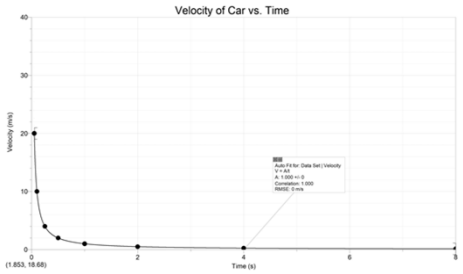
Quadratic: $y = Ax^2 + Bx + C$



9

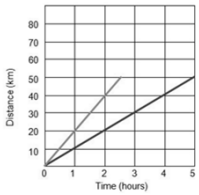
Variable Relationships

Inverse: y = A/x



10

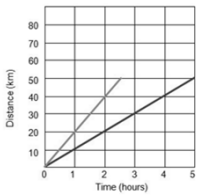
Finding Slope



- Equation:
- Find the slope of the green line:
- What is the unique equation of the line?

11

Finding Slope



- Equation:
- Find the slope of the red line:
- What is the unique equation of the line?

12