I can:

Do Now (3 minutes to complete):

Which equation defines a linear function?

A $y = \frac{2}{4}x + 12$ **C** $x^2 + y^2 = 16$

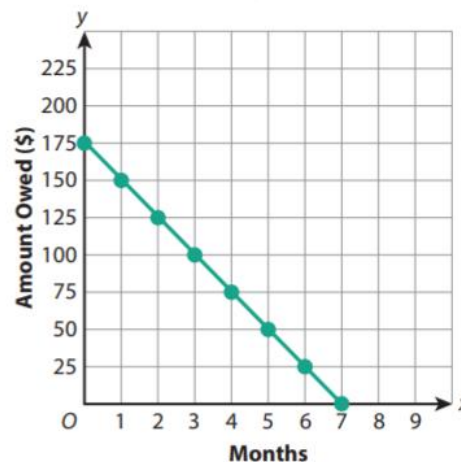**B** $y = x^2 + 4x - 6$ **D** $\frac{1}{x^2} + \frac{1}{y^2} = 4$

Teacher Model (10 minutes) You Watch, Listen, Copy:

Hector wants to buy a new computer monitor. The prices and payment options are different at two stores. Which store plan has a greater monthly payment? Explain.
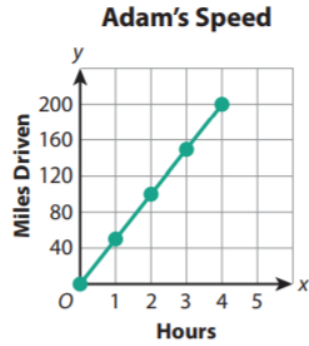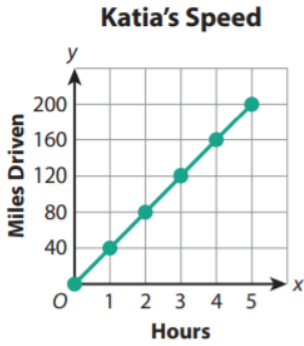
Store A Payment Plan

Price of $250. Pay $100 at the time of purchase. Pay $50 per month until the monitor is paid for.

_____

_____

_____

Store B Payment Plan

Check for Understanding- Did you understand the Model? (2 minutes) Teacher will check!

Katia and Adam are both taking a 200-mile road trip.
Their driving speeds are shown below.

Katia's Speed

Adam's Speed

Which driver has the greater rate of change? What does
this mean in the context of the problem?

_____

_____

We Do Together (10 minutes):

This graph shows the speed of a car on a city street.
Describe and interpret section C of the graph.

_____

_____
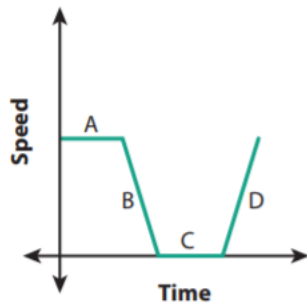
Final Check for Understanding before I send you to Independent Practice! Teacher will Check (4 minutes):

Andrea is washing the windows on the second and fourth floors of a building. The graph shows her height from the ground floor while washing windows.

Use words from the box below to correctly describe each section of the graph. Words may be used more than once.

| positive   negative   zero   up   down   second   fourth |
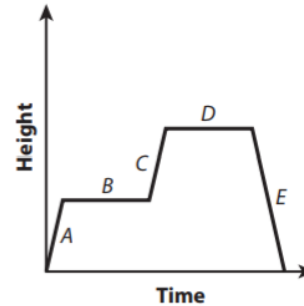
a. Section A has a _____ slope and represents going _____ to the _____ floor.

b. Section B has a _____ slope and represents washing the windows on the _____ floor.

c. Section C has a _____ slope and represents going _____ to the _____ floor.

d. Section D has a _____ slope and represents washing the windows on the _____ floor.

e. Section E has a _____ slope and represents going _____ to the ground floor.

Independent Practice (on your own):

The graph shows the speed of Tony's car as he drives to work.
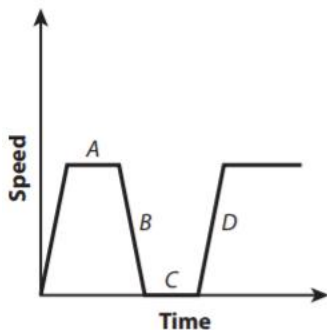
Which section of the graph could show where Tony was stopped at a traffic light?

Answer: Section _____

A small plane taxis down a long runway and takes off. The plane gradually climbs to a certain altitude and flies for a time at that altitude. Then it gradually descends to a lower altitude and stays at that altitude.
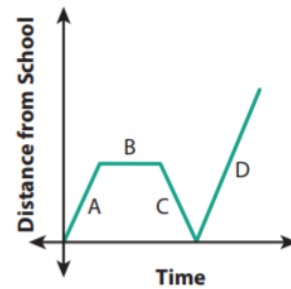
Sketch a graph that shows the altitude of the plane during this period of its flight.

Altitude

Time
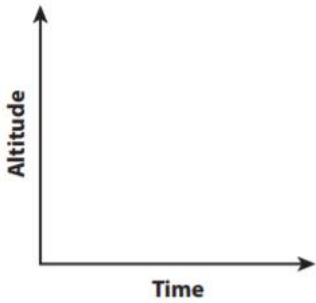
Summarize the graph showing the speed of a roller coaster.

_____

_____

_____

_____

Speed

Time
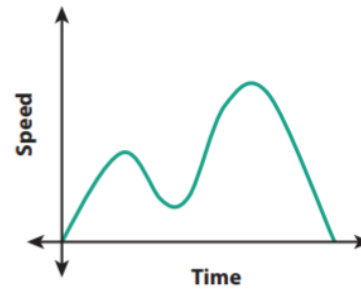
This graph shows Raj's distance from school as he walks home at the end of the day. Describe what could be happening during each section of the graph.

_____

_____

_____

_____

Distance from School

B

A   C   D

Time

This graph shows the weight of a puppy over a 6-month period. Tamara says that the puppy's weight increased at a greater rate at the beginning of the 6-month period than at the end. Do you agree? Explain.

_____

_____

_____

Weight
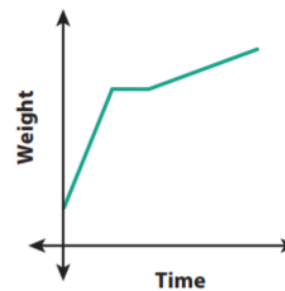
Time

ve.

Adele starts driving home from work. On the way home, she stops at the grocery store. Adele then drives home from the store at a slower rate than the first part of her drive. Sketch a graph that shows Adele's distance from work compared to time.

Distance from Work

Time
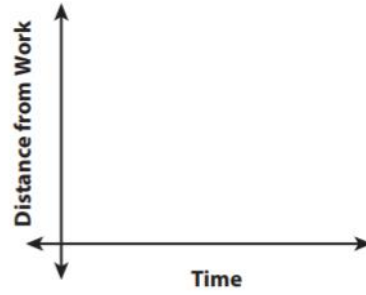
Jacob and Angel are riding bikes on a bike trail. The first part of the trail is steep, so they ride at a slow rate. Halfway up, they stop and rest for several minutes. Then they slowly continue up the steep part of the trail. After reaching the highest part of the trail, they ride down at a constant rate that is faster than they rode up the first part of the trail. Sketch a graph to show the distance compared to time.

Distance Ridden

Time
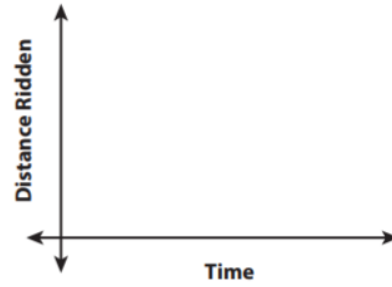
Sales of computers at Tech Smart decrease at a constant rate for the first few months of the year. Then sales level off and stay the same for a couple of months. Sales decrease again for a couple of months and finally increase gradually through the end of the year. Sketch a graph to show the sales compared to time. Explain your graph.

Sales

Time

_____

_____

_____

_____
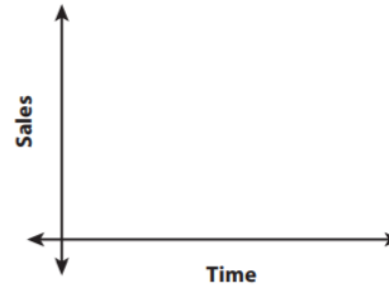
Write a story for a qualitative graph. Sketch a graph for your story, and then write a description for each segment of your graph.

_____

_____

_____

_____