

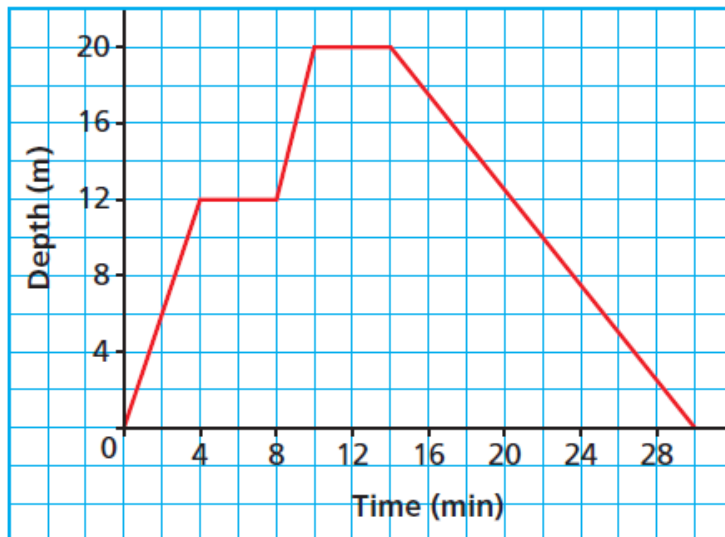
5.3 Interpreting and Sketching Graphs

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In math, a graph provides much information.

This graph shows the depth of a scuba diver as a function of time.

A Scuba Diver's Dive

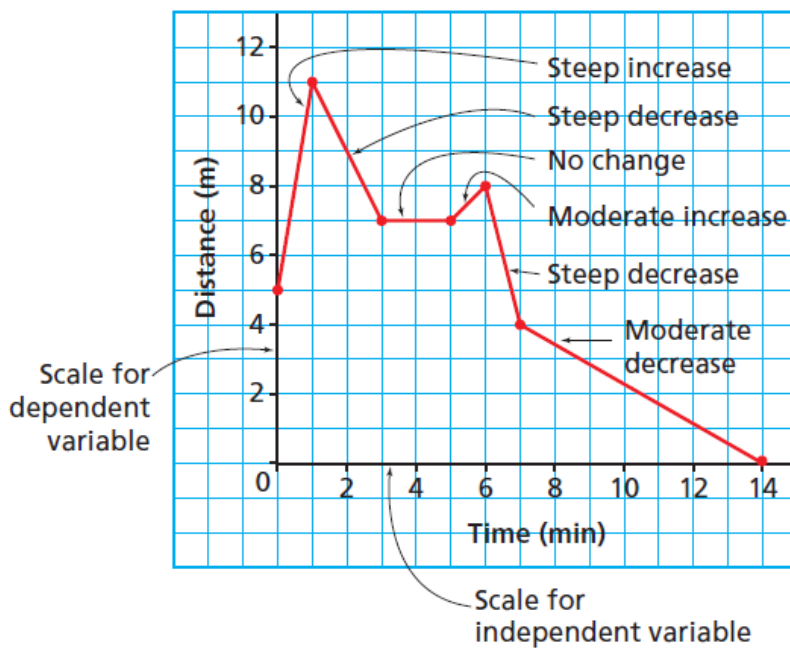


How many minutes did the dive last?

At what times did the diver stop her descent?

What was the greatest depth the diver reached? For how many minutes was the diver at that depth?

The properties of a graph can provide information about a given situation.



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Example 1 Interpreting a Graph

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Each point on this graph represents a bag of popping corn. Explain the answer to each question below.

a) Which bag is the most expensive?
What does it cost? **C, \$7**

b) Which bag has the least mass?
What is this mass? **B, 500g**

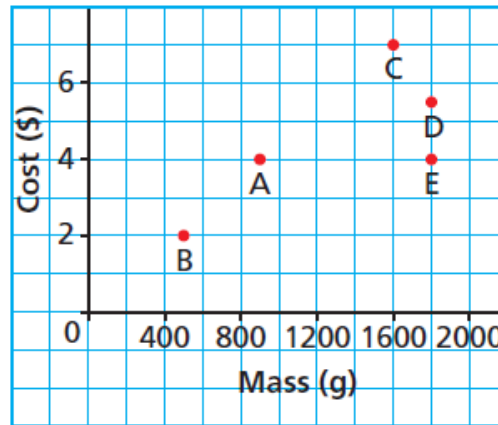
c) Which bags have the same mass?
What is this mass? **D & E, 1800g**

d) Which bags cost the same?
What is this cost? **A, E \$4**

e) Which of bags C or D has the better value for money?

C → \$7 for 1600g
D → \$5.50 for 1800g

Costs and Masses of Various Bags of Popcorn



Example 2

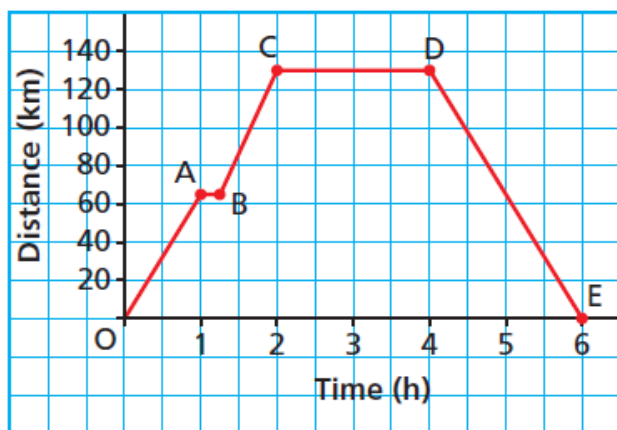
Describing a Possible Situation for a Graph

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Long Answer Type.

Describe the journey for each segment of the graph.

Day Trip from Winnipeg to Winkler, Manitoba



The distance between Winnipeg and Winkler is 130 km.

Segment	Graph	Journey
OA	The graph goes up to the right, so as time increases, the distance from Winnipeg increases.	In the first hour, the car leaves Winnipeg and travels approximately 65 km toward Winkler.
AB	The graph is horizontal, so as time increases, the distance stays the same.	The car stops for approximately 15 min.
BC	The graph goes up to the right, so as time increases, the distance increases.	The car travels approximately 65 km toward Winkler.
CD	The graph is horizontal, so as time increases, the distance stays the same.	At C, the car has travelled 130 km so it has reached Winkler, where it stops for 2 h.
DE	The graph goes down to the right, so as time increases, the distance decreases.	The car returns to Winnipeg and takes 2 h to travel 130 km.

Practice pg. 281

#3, 4, 6, 8

Function Notation Practice

1. $f(x) = -5x + 9$, find $f(-3)$
2. $P(n) = n^2 - n + 1$, find $P(-4)$
3. $f(x) = 10x - 3$, find x when $f(x) = 107$
4. $P(t) = \frac{t+5}{2}$, find $f(21)$
5. $P(n) = n^2 - 6$, find n when $P(n) = 58$