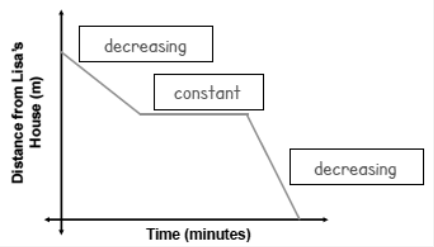
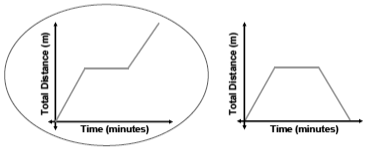
Labeling



Example finding angle

Example: For his workout, Miguel ran uphill for a while, reached the top, rested a few minutes to take a drink of water, and then ran back down the hill. Compare the graphs below and determine which one accurately represents Miguel's workout.

Circle the correct graph.

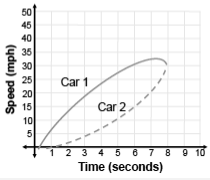


When Miguel runs back down the hill, that means distance is still increasing. He's traveling additional distance. If he's traveling additional distance, the distance needs to go [up].

speed and time

Comparing Speed and Time

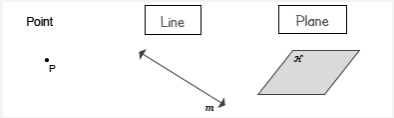
Example: Compare the plotted graphs of two cars' speed versus time, with both cars starting from the same location.



Defining terms

ray	part of a line that has one endpoint and extends indefinitely in one direction
line segment	a part of a line that has two endpoints and a specific length
perpendicular lines	lines that intersect to form right, or 90-degree, angles
parallel lines	lines that lie in the same plane and do not intersect

Undefined Geometric terms



Defining mathematical terms

Ray

Draw and label $\overrightarrow{AB}$.

Line Segment

Draw and label $\overline{CD}$.



Rays and Line Segments

Rays and Line Segments

Example: Identify the rays and line segments shown in the diagram.

Rays:

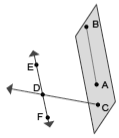
$\overrightarrow{DE}$

$\overrightarrow{DF}$

$\overrightarrow{ED}$

$\overrightarrow{EF}$

$\overrightarrow{CD}$



Line segments:

$\overline{DE}$

$\overline{DF}$

$\overline{FE}$

$\overline{BA}$

$\overline{CD}$

Quantitative Reasoning

compare	to explain or show the similarities or differences between items or ideas
scenario	an imagined or projected sequence of events
constant	a number or a variable whose value does not change
quantity	measurable attribute of a thing or event
rate	a ratio comparing quantities measured in different units

Example

Miranda has 55 feet of fencing. She wants to use all the fencing to create a rectangular garden. The equation $2l + 2w = 55$, where l is the length of the garden and w is the width, models the scenario. This equation can be used to find one dimension of the garden if the other dimension is known.

If Miranda makes the garden 17.5 feet long, how wide should she make it?

1. [Substitute] 17.5 for l. $2(\boxed{17.5}) + 2w = 55$
2. Simplify. $35 + 2w = 55$
3. Use the properties of equality to solve for w. $-35 \quad -35$

$0 + \frac{2w}{2} = \frac{20}{2}$

$w = \boxed{10}$ ft

Creating an Input/Output Table of Values

Create a table of input and output values for the equation $y = 5 + 3x$.

$x = -2$ $y = 5 + 3(-2) = -1$

$x = -1$ $y = 5 + 3(-1) = 2$

$x = 0$ $y = 5 + 3(0) = \boxed{5}$

$x = 1$ $y = 5 + 3(1) = 8$

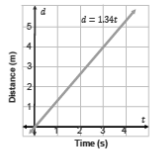
$x = \boxed{2}$ $y = 5 + 3(2) = 11$

Inputs	Outputs
–2	–1
–1	2
0	5
1	8
2	11

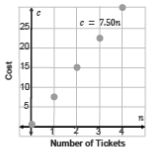
Introduction to Functions

range	the set of output values corresponding to the domain values
dependent variable	the variable in a function that represents the output values; the second coordinate in the ordered pairs
function	a relation in which each element of the domain is mapped to (paired with) exactly one element of the range
domain	the set of input values for which the function is defined
relation	a set of ordered pairs
independent variable	the variable in a function that represents the input values; the first coordinate in the ordered pairs

Continuous vs. Discrete Graphs



Time and distance can be fractional.



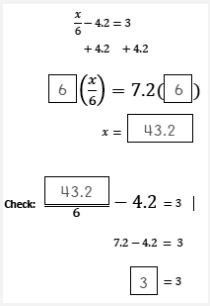
The number of tickets must be a whole number.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

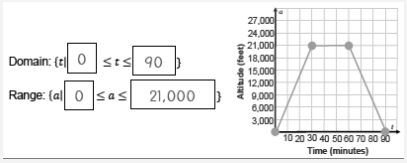
Writing and Graphing Equations in Two Variables

assume	to accept as true without proof
viable	capable of working succes-sfully; practical, realistic, usable, possible
continuous graph	a graph in the coordinate plane made up of connected ines or curves with no breaks
coordinate plane	a graph that has a finite number of data points
ordered pair	the pair of numbers, given in a specific order used to locate a point a coordinate plane

Writing and Solving Equations in Two Variables

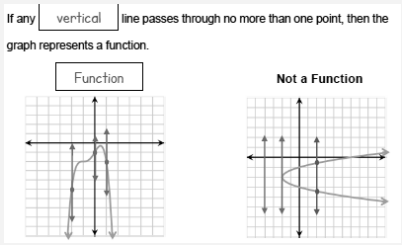


Creating an Input/Output Table of Values



Domain is x-axis, while Range is y-xis

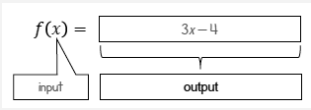
Is it a function? Do the vertical line test



Definitions

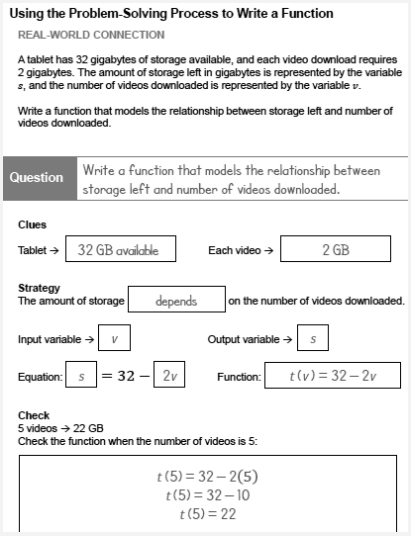
discrete graph	a graph that has a finite or limited number of data points
function notation	a notation that traditionally replaces the dependent variable in a function with ☐ ☐$f(xx)$, where ffrepresents the valueof the dependent variable at a given indepe-ndent value, xx
continuous graph	a graph in the coordinate plane made up of connected lines or curves with no breaks

Function Notation



The meaning of

Write a notation yourself



Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com