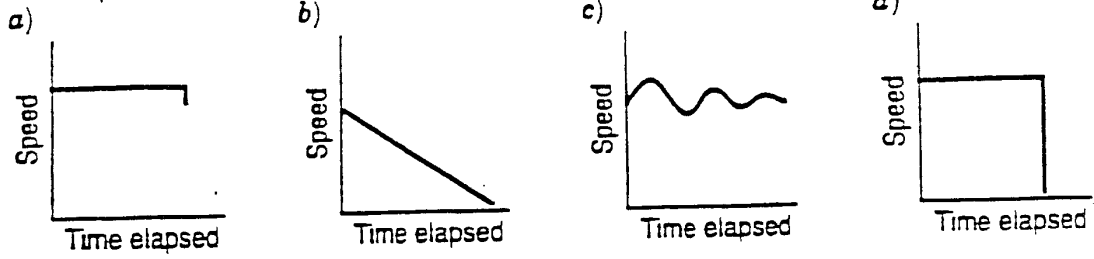
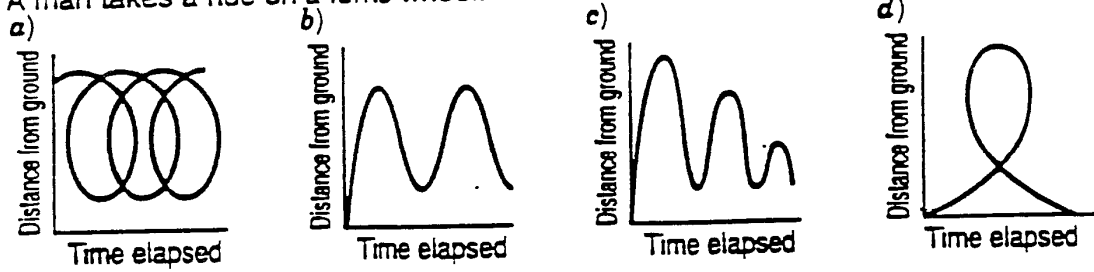


Indicate which graph matches the statement.

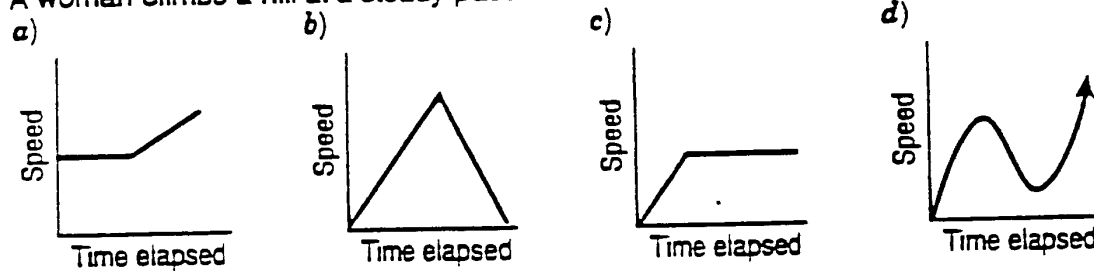
1. A train pulls into a station and lets off its passengers.



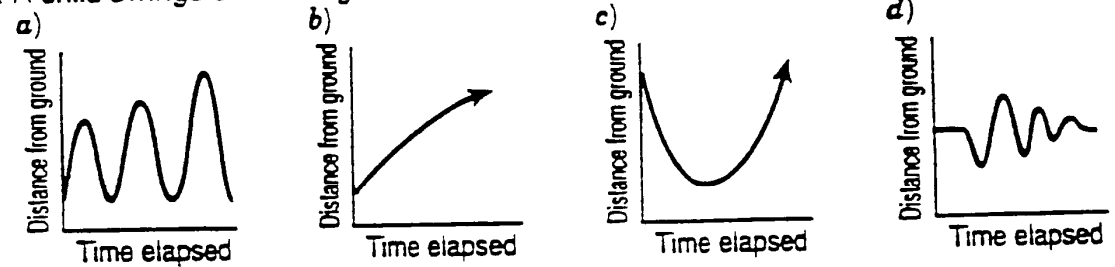
2. A man takes a ride on a ferris wheel.



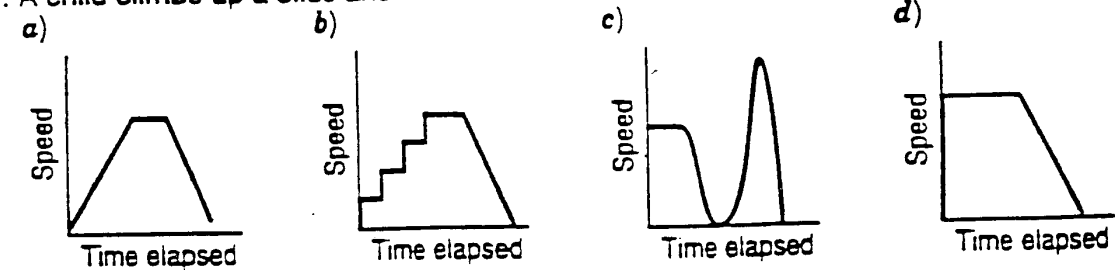
3. A woman climbs a hill at a steady pace and then starts to run down one side.



4. A child swings on a swing.



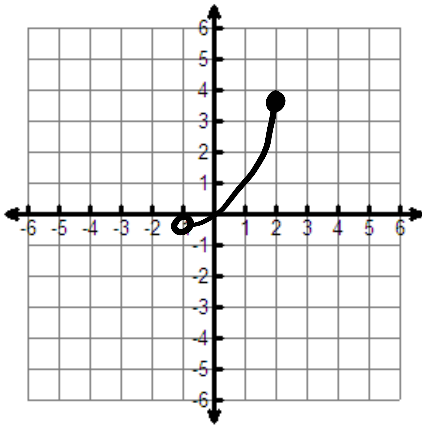
5. A child climbs up a slide and then slides down.



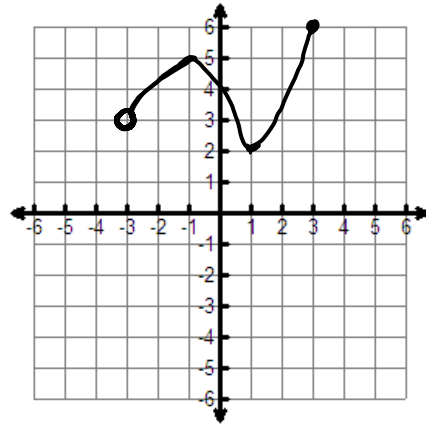
Directions:

Analyze each graph to identify the domain and range in interval notation

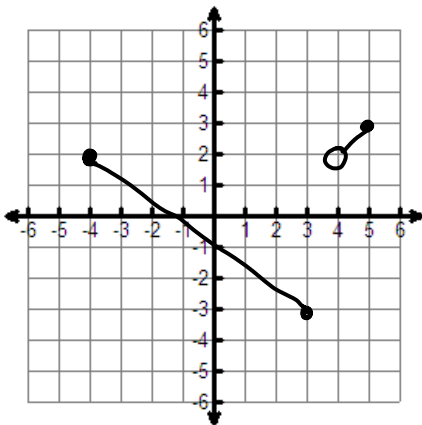
1.



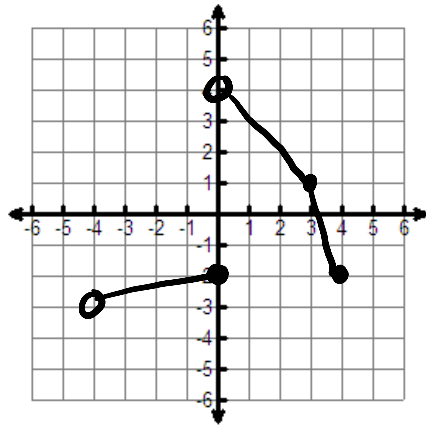
2.



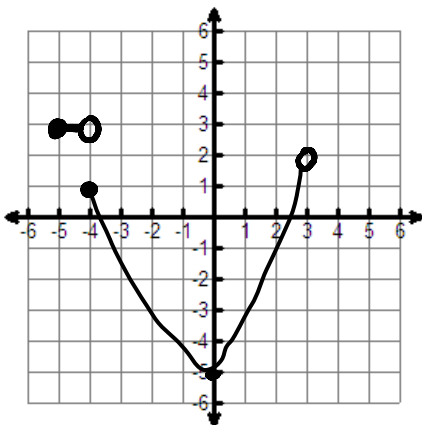
3.



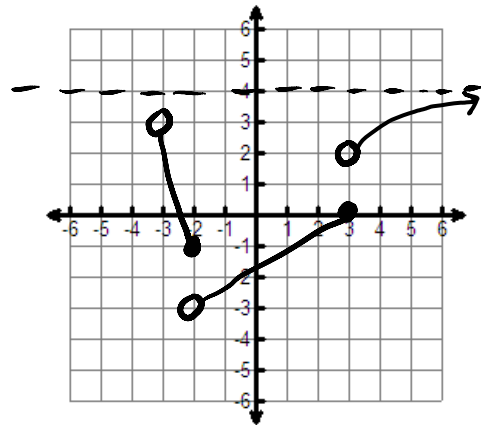
4.



5.



6.



Answers:

$$1) \begin{array}{l} D: (-1, 2] \\ R: (-1, 3] \end{array}$$

$$2) \begin{array}{l} D: (-3, 3] \\ R: [2, 6] \end{array}$$

$$3) \begin{array}{l} D: [-4, 3] \cup (4, 5] \\ R: [-3, 3] \end{array}$$

$$4) \begin{array}{l} D: (-4, 4] \\ R: (-3, 4) \end{array}$$

$$5) \begin{array}{l} D: [-5, 3) \\ R: [-5, 2) \cup 3 \end{array}$$

$$6) \begin{array}{l} D: (-3, +\infty) \\ R: (-3, 4) \end{array}$$

↑
Because of
horizontal asymptote
at $y=4$

Objective:

Given a situation from the real world in which the value of one variable depends on the value of the other,

- (1) Identify the independent and dependent variables
- (2) Sketch a reasonable graph showing their relationship
- (3) Label the horizontal and vertical axis clearly in words and in appropriate units
- (4) Give a short explanation of the way your graph is depicting the given relationship

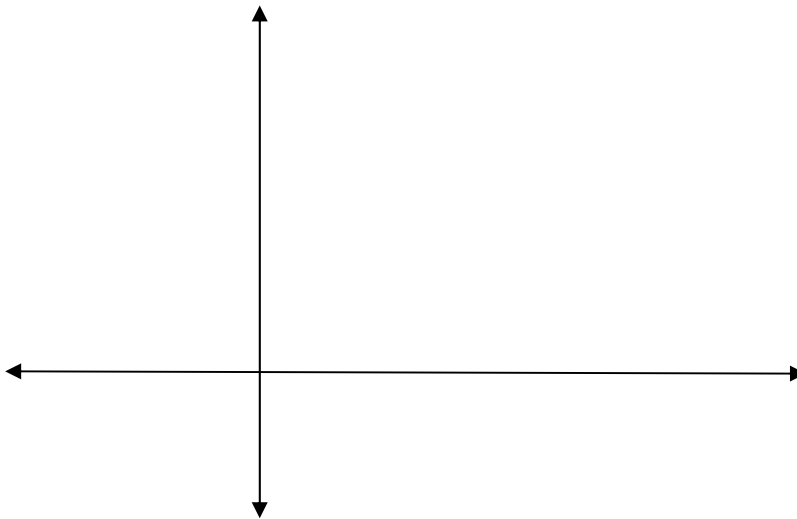
Example:

A businessman returned home from abroad with a new and highly contagious disease. In the ensuing epidemic which sweeps through his city, the number of people who have the disease at any one time is related to the number of days since the man arrived home.

(1) Independent variable: _____

Dependent variable: _____

(2) Sketch a reasonable graph showing their relationship (*Answers may vary*)



(3) Label the horizontal and vertical axis clearly in words and in appropriate units

(4) Give a short explanation of the way your graph is depicting the given relationship

(over)

WK #5 (p. 2 of 2)

NOTE:

A straight-line graph implies a constant rate of change of y with respect to x .

If the rate of change of y varies, the graph will be curved.

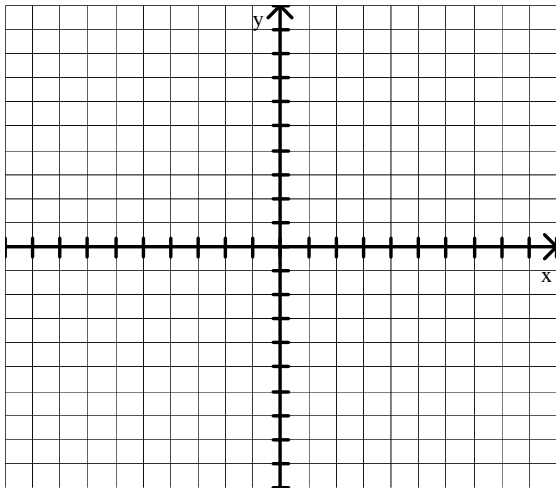
Some curved graphs make abrupt changes, others level out gradually.

1) Using domain and range given, sketch a graph (There are many possible solutions)

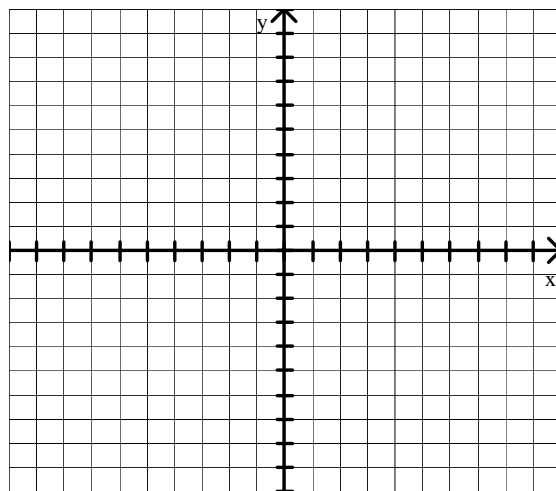
D: $\{ x \mid -2 \leq x \leq 5 \}$

R: $[1, 7)$

#1 version

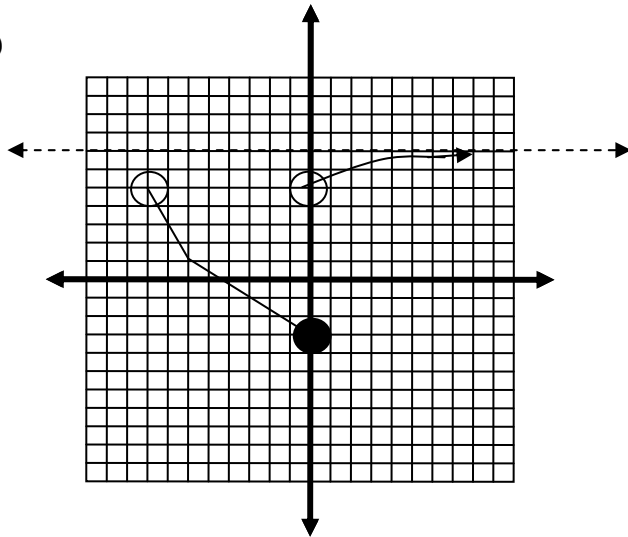


#2 version

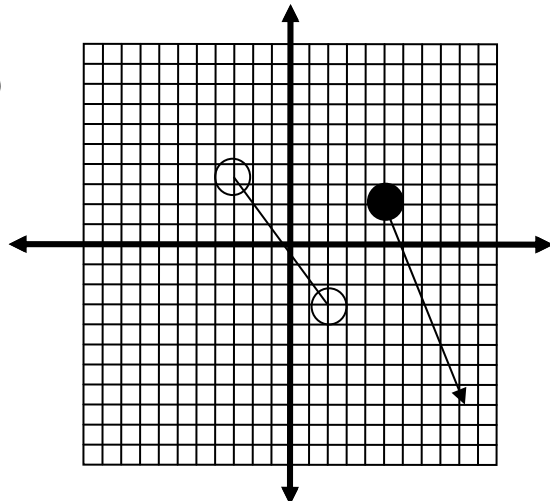


2) State the range and domain of each function using interval notation:

a)



b)



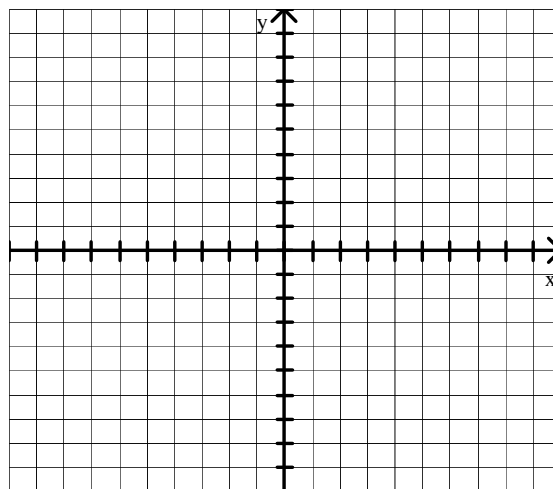
3) $y = |x - 3|$

D: In words: { Real #s between -2 and 5, including 5 }

D: Interval notation:

R: Interval notation:

x	y



Is this relation a function? _____

4) $x = |y - 3|$

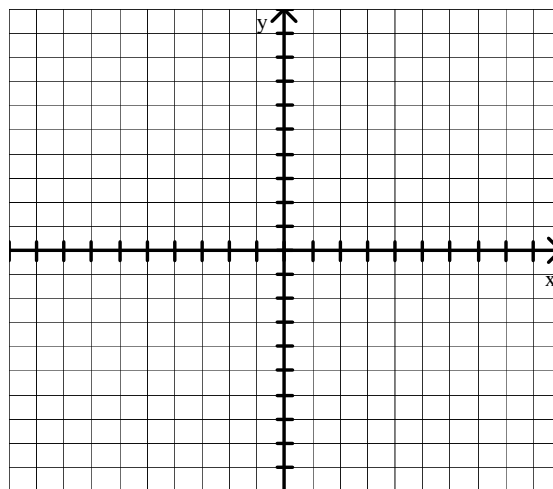
D: { All real values of x for which there are real number values of y }

D: Interval notation:

R: Interval notation:

Method 1:

x	y



Method 2:

x	y=_____	y=_____

Is this relation a function? _____

(Remember there are 2 methods to use when given equation is solved for x.

Method 1: Leave equation solved for x and substitute appropriate values for y to determine corresponding values for x.

Method 2: Solve for y. Since it is within the absolute value, there are two cases. $y - 3 = +x$ or $y - 3 = -x$ within the original domain.

Substitute appropriate values for x to determine corresponding values of y. Be careful that the x values make sense in the original absolute value relation. Start with the smallest possible value of x in the domain.