

Math Models
Review - Relations and Functions

Name: _____ Period: _____

1. For each situation, label each event as independent or dependent. Think about which event must happen first.

a) number of quarters _____

height of stack _____

b) gallons of fuel consumed _____

length of an airplane flight _____

c) total cost to hire an electrician _____

electrician's hourly cost _____

d) speed of a car _____

distance traveled in 3 hours _____

e) money earned _____

money saved _____

2. Name the independent and dependent variables in the function $f = 6p - 7$.

independent variable = _____

dependent variable = _____

3. Name the independent and dependent variables in the function $w = 9(v^2 + 8)$.

independent variable = _____

dependent variable = _____

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4. Find the range of the function $y = 5x - 3$ when the domain is $\{-5, -1, 6\}$.

range = { _____ }

Show all work for full credit.

x = _____ y = _____

x = _____ y = _____

x = _____ y = _____

State the domain and range of each relation and make a mapping diagram. State whether the relation is a function or not a function.

5. $\{(1,1), (1,2), (3,3), (4,4)\}$

D: _____

R: _____

Circle the correct answer:

Function

Not a Function

6. $\{(-1,5), (-2,4), (-3,3), (-4,2)\}$

D: _____

R: _____

Circle the correct answer:

Function

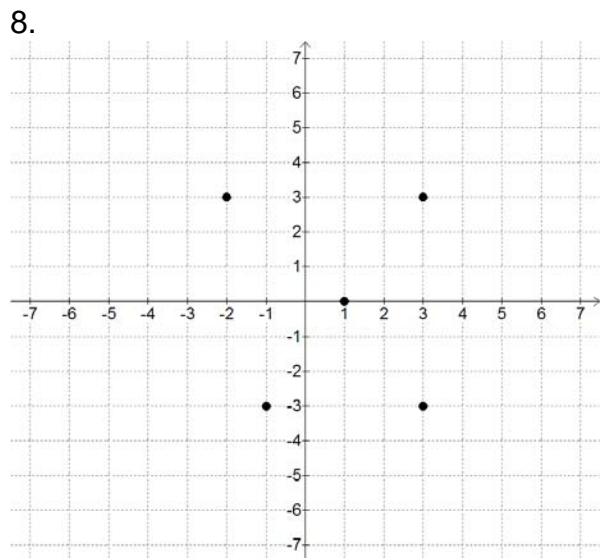
Not a Function

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7. Which set represents the range of $\{(5, -2), (7, -3), (6, -4), (8, -5)\}$?

- F. $\{76, 77\}$ G. All positive integers H. $\{-2, -3, -4, -5\}$ J. $\{5, 7, 6, 8\}$

Give the domain and range of each relation and make a mapping diagram. Then decide if each relation is a function.

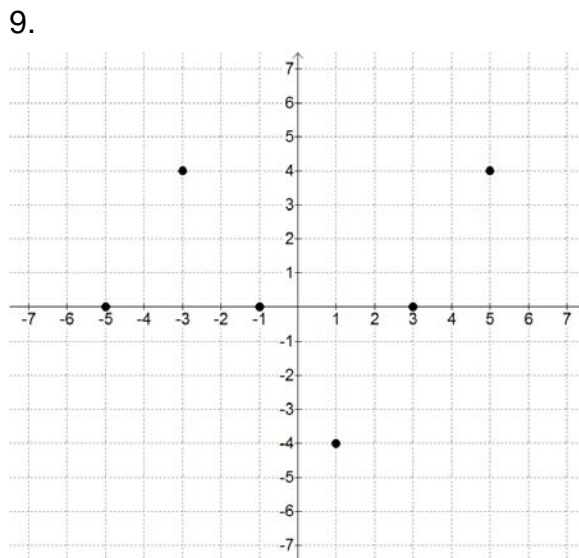


D: _____

R: _____

Circle the correct answer:

- Function Not a Function



D: _____

R: _____

Circle the correct answer:

- Function Not a Function

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Determine whether each relation is a function.

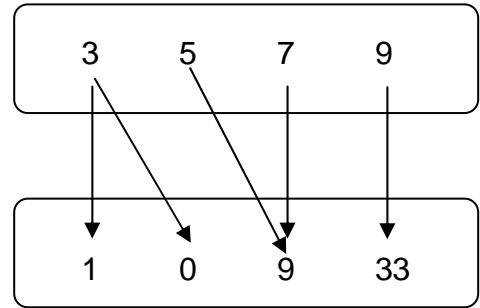
10.
Circles

Diameter (in.)	3	7	8	10
Circumference (in.)	9.42	21.99	25.13	31.42

Circle the correct answer:

Function Not a Function

11.



Circle the correct answer:

Function Not a Function

12. Car models to car colors.

Circle the correct answer:

Function Not a Function

13. The number of items in a grocery cart to the total cost of the items in the cart.

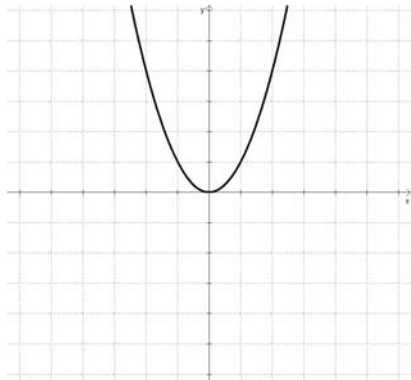
Circle the correct answer:

Function Not a Function

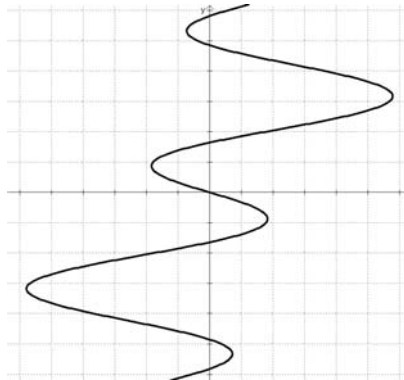
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Use the vertical-line test to determine whether each relation is a function.
If not, identify two points a vertical line would pass through.

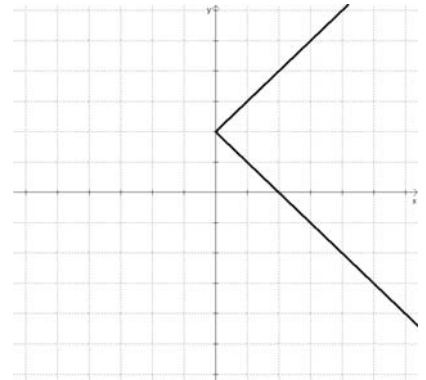
14.



15.



16.



For each function, find y when $x = 0$, $x = -4$, $x = 3$.

17. $f(x) = 6x - 1$

$x = 0$ $y =$ _____

$x = -4$ $y =$ _____

$x = 3$ $y =$ _____

18. $f(x) = -4x + 5$

$x = 0$ $y =$ _____

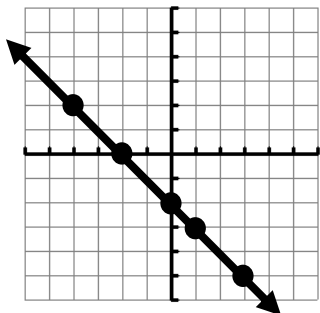
$x = -4$ $y =$ _____

$x = 3$ $y =$ _____

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Fill in the missing x or y values.

20.



$x = 0$ $y = \underline{\hspace{2cm}}$

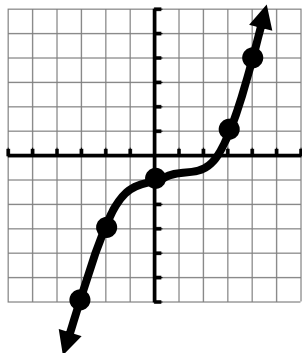
$x = -4$ $y = \underline{\hspace{2cm}}$

$x = 3$ $y = \underline{\hspace{2cm}}$

$x = \underline{\hspace{2cm}}$ $y = 0$

$x = \underline{\hspace{2cm}}$ $y = -3$

21.



$x = 0$ $y = \underline{\hspace{2cm}}$

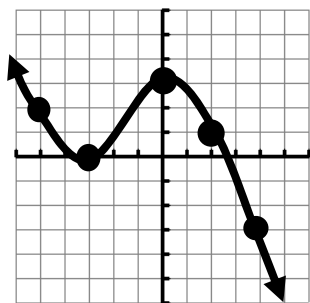
$x = -2$ $y = \underline{\hspace{2cm}}$

$x = 4$ $y = \underline{\hspace{2cm}}$

$x = \underline{\hspace{2cm}}$ $y = 1$

$x = \underline{\hspace{2cm}}$ $y = -5$

22.



$x = 0$ $y = \underline{\hspace{2cm}}$

$x = -5$ $y = \underline{\hspace{2cm}}$

$x = 2$ $y = \underline{\hspace{2cm}}$

$x = \underline{\hspace{2cm}}$ $y = -3$

$x = \underline{\hspace{2cm}}$ $y = 0$

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23. State the domain and range of this function.

Domain: _____

Range: _____

