

2.1 Practice – Function Intro

Pre-Calculus

Name: Answer Key

For 1-4, identify if the relationship represents a function. If it does not, clearly explain why not.																											
1) <table border="1" style="display: inline-table; vertical-align: top;"> <thead> <tr> <th>Independent</th> <th>Dependent</th> </tr> </thead> <tbody> <tr><td>-2</td><td>5</td></tr> <tr><td>0</td><td>5</td></tr> <tr><td>1</td><td>5</td></tr> <tr><td>2</td><td>5</td></tr> <tr><td>6</td><td>5</td></tr> </tbody> </table>	Independent	Dependent	-2	5	0	5	1	5	2	5	6	5	2) <table border="1" style="display: inline-table; vertical-align: top;"> <thead> <tr> <th>Domain</th> <th>Range</th> </tr> </thead> <tbody> <tr><td>3</td><td>-1</td></tr> <tr><td>2</td><td>-5</td></tr> <tr><td>5</td><td>-5</td></tr> <tr><td>4</td><td>-6</td></tr> <tr><td>3</td><td>-3</td></tr> </tbody> </table>	Domain	Range	3	-1	2	-5	5	-5	4	-6	3	-3	3) The ordered pairs: (-17, 0), (1, -4), (-2, 5), (3, 4), and (1, 6).	4) $f(-5) = 0$, $f(-1) = 4$, $f(0) = -5$, $f(4) = 2$, and $f(-1) = 4$.
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FUNCTION. The independent values do not repeat.		NOT A FUNCTION. The domain value of 3 has two different range values.																									
For 5-8, identify the independent (input) variable and the dependent (output) variable.																											
5) While Trick-or-Treating, the amount of candy collected depends on the number of doors knocked.		6) The amount of candy eaten determines the number of cavities the following year.																									
Input: number of doors knocked. Output: amount of candy collected.		Input: amount of candy eaten. Output: number of cavities.																									
7) The ability to draw quality art is a function of the hours spent drawing.		8) The month of the year helps determine the average high temperature.																									
Input: hours spent drawing. Output: ability to draw quality art.		Input: month of the year. Output: average high temperature.																									
For 9-11, write a sentence explaining the meaning of the specific numbers given for each scenario.																											
9) The input of a function C is time of day since midnight. The output is the number of cars in the parking lot. What does $C(9) = 115$ mean?		10) The input of a function W is height (in centimeters). The output is weight (in pounds). What does $W(183) = 212$ mean?																									
At 9:00 a.m. there are 115 cars in the parking lot.		A person with a height of 184 cm weighs 212 lbs.																									
11) The input of a function I is the number of lame jokes Mr. Kelly tells in a day. The output is the irritability level of his students (measured in Kellygrams). What does $I(8) = 78$ mean?																											
Students have an irritability level of 78 when Mr. Kelly tells 8 lame jokes.																											
For 12-14, use a graphing calculator to complete the table. Use the method indicated.																											
12) $f(x) = 0.7x^2 - 4.9x + 501$ Use Table Ask		13) $g(x) = \frac{x^2+x}{x-4}$ Use Trace																									
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14) $h(x) = 5034x^5 + 35.2x - 8005$ Use Function Notation																											
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For 15-18, use the graph given for each problem to determine the values. If the value is between two integers, approximate to one decimal place.

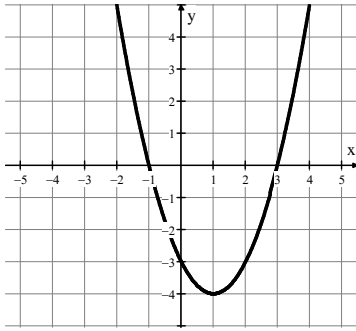
15)

a. $f(2) = -3$

b. $f(-2) = 5$

c. If $f(x) = -4$, then $x = 1$

d. If $f(x) = 0$, then the possible value(s) of x are:



$-1, 3$

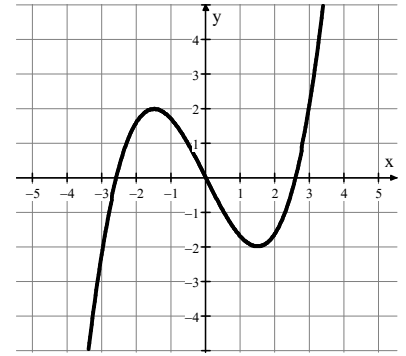
16)

a. $f(-3) = -2$

b. $f(1.5) = -2$

c. If $f(x) = 3$, then $x = 3.1$

d. If $f(x) = 0$, then the possible value(s) of x are:



$x \approx -2.6, 0, 2.6$

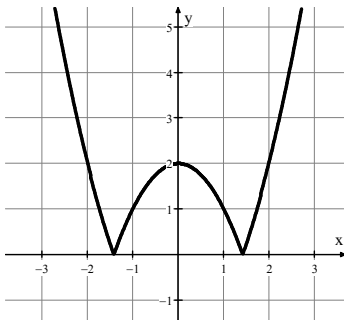
17)

a. $f(0) = 2$

b. $f(-1) = 1$

c. If $f(x) = 4$, then $x = -2.5$ or 2.5

d. If $f(x) = 0$, then the possible value(s) of x are:



$x \approx -1.4$
 $x \approx 1.4$

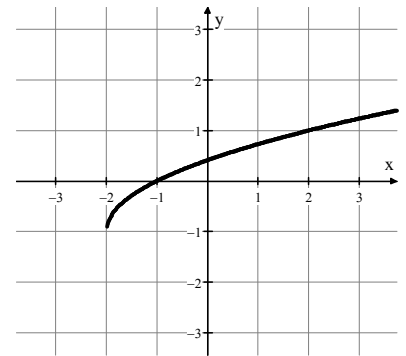
18)

a. $f(2) = 1$

b. $f(3) = 1.2$

c. If $f(x) = -1$, then $x = -2$

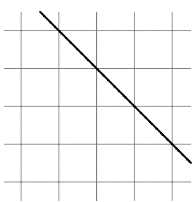
d. If $f(x) = 0$, then the possible value(s) of x are:



$x = -1$

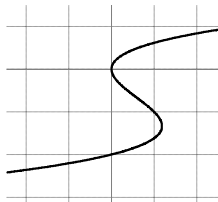
For 19-23, state whether or not each graph represents a function.

19)



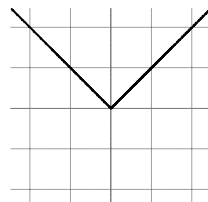
Function

20)



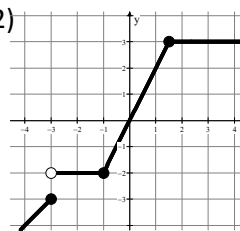
Not a Function

21)



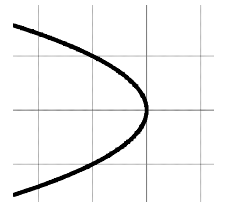
Function

22)



Function

23)



Not a Function

24) Find the output for $w(x) = 3x^2 - x + 2$

a. $w(\Delta) =$

$3\Delta^2 - \Delta + 2$

b. $w(x+3) =$

$3(x+3)^2 - (x+3) + 2$
 $3(x^2 + 6x + 9) - x - 3 + 2$
 $3x^2 + 18x + 27 - x - 1$
 $3x^2 + 17x + 26$

c. $w(x+h) =$

$3(x+h)^2 - (x+h) + 2$
 $3(x^2 + 2hx + h^2) - x - h + 2$
 $3x^2 + 6hx + 3h^2 - x - h + 2$