

Class Name : **Lacoste College Algebra Fall 2019**Instructor Name : **Master Templates**

Student Name : _____

Instructor Note : Complete this test by yourself using a pencil. Do not use your textbook, notes or any Internet-connected device. You may use a scientific calculator. You have eighty-five (85) minutes to complete this test. Circle your final answer(s).

Question 1 of 20Solve the inequality for x .

$$6x - 35 \geq -5(3 - 2x)$$

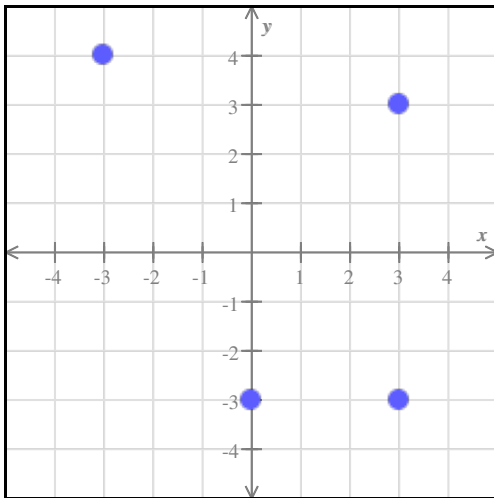
Simplify your answer as much as possible.

Question 2 of 20For each of the following equations, determine whether y is a function of x .

$y = 6x^2 - 1$
<input type="radio"/> Function <input type="radio"/> Not a function
$x = 7y^2 + 5$
<input type="radio"/> Function <input type="radio"/> Not a function
$3x - y = 9$
<input type="radio"/> Function <input type="radio"/> Not a function
$y^2 = 9x$
<input type="radio"/> Function <input type="radio"/> Not a function

Question 3 of 20

The graph of the relation G is shown below.

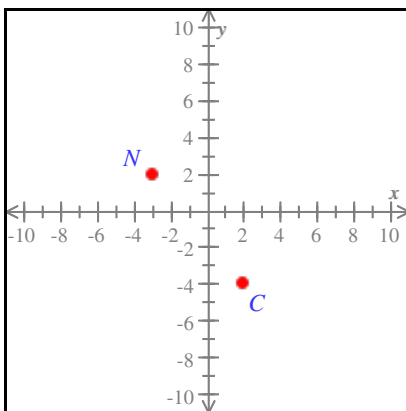


Give the domain and range of G .
Write your answers using set notation.

Question 4 of 20

Calculate the distance between the points $N = (-3, 2)$ and $C = (2, -4)$ in the coordinate plane.

Give an exact answer (not a decimal approximation).



Question 5 of 20

Salma launches a rocket straight up into the air. The table below gives the height $H(t)$ of the rocket (in meters) at a few times t (in seconds) during its flight.

Time t (seconds)	Height $H(t)$ (meters)
0	0
2.2	110
6.6	198
8.8	44
13.2	0

(a) Find the average rate of change for the height from 0 seconds to 2.2 seconds.

_____ meters per second

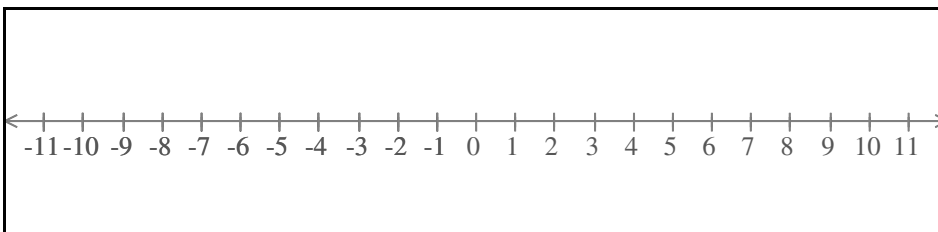
(b) Find the average rate of change for the height from 6.6 seconds to 13.2 seconds.

_____ meters per second

Question 6 of 20

Graph the solution to the inequality on the number line.

$$|5y - 5| \leq 10$$

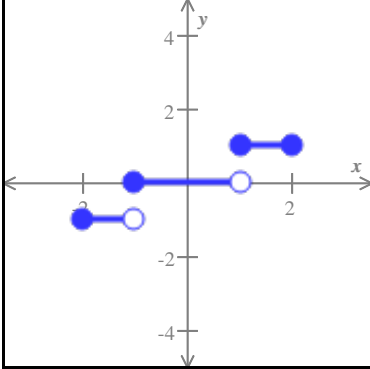
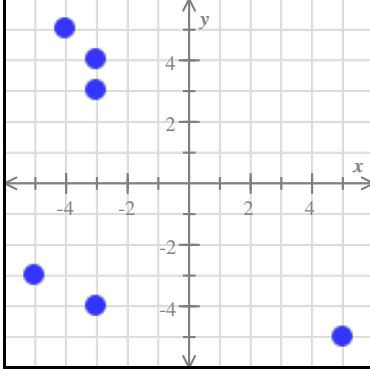
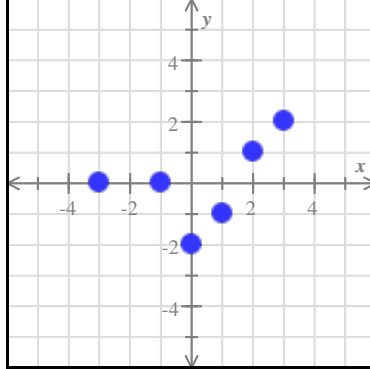
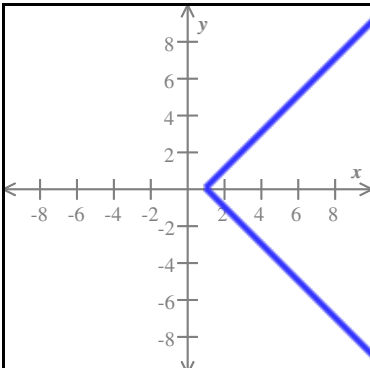
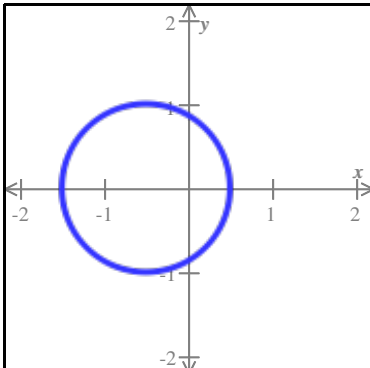
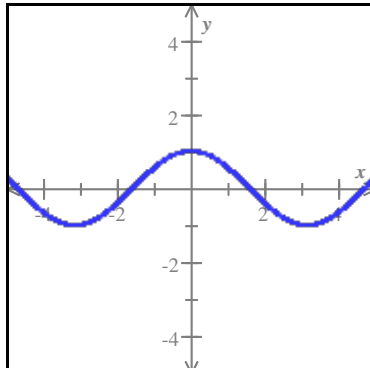
**Question 7 of 20**

Solve for u .

$$-5|u + 5| = -40$$

Question 8 of 20

For each graph below, state whether it represents a function.

Function?	<p>Graph 1</p>  <p><input type="radio"/> Yes <input type="radio"/> No</p>	<p>Graph 2</p>  <p><input type="radio"/> Yes <input type="radio"/> No</p>	<p>Graph 3</p>  <p><input type="radio"/> Yes <input type="radio"/> No</p>
Function?	<p>Graph 4</p>  <p><input type="radio"/> Yes <input type="radio"/> No</p>	<p>Graph 5</p>  <p><input type="radio"/> Yes <input type="radio"/> No</p>	<p>Graph 6</p>  <p><input type="radio"/> Yes <input type="radio"/> No</p>

Question 9 of 20

Find an equation of the circle whose diameter has endpoints $(-3, 6)$ and $(1, -2)$.

Question 10 of 20

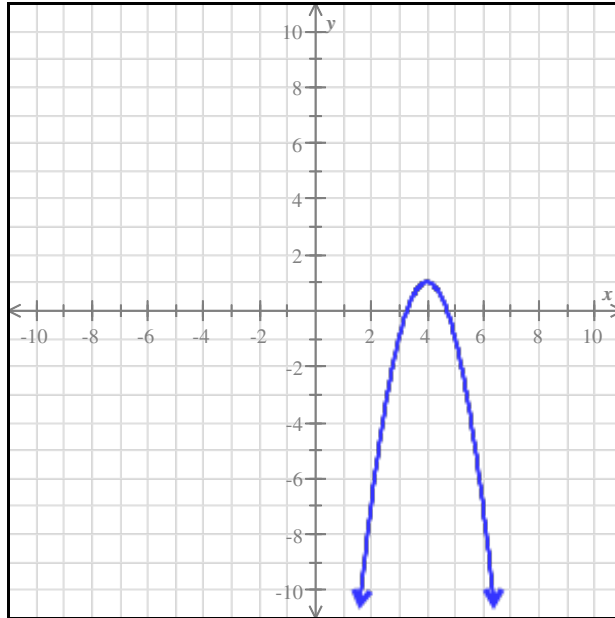
Solve the inequality for u .

$$-\frac{3}{7}u + 14 \geq 11$$

Simplify your answer as much as possible.

Question 11 of 20

The graph of a quadratic function with vertex $(4, 1)$ is shown in the figure below. Find the domain and the range.



Write the domain and range using interval notation.

domain = _____

range = _____

Question 12 of 20

Fill in the blank to make the expression a perfect square.

$$y^2 + 14y + \boxed{}$$

Question 13 of 20

Solve for x , where x is a real number.

$$\sqrt{2x + 15} = \sqrt{4x + 7}$$

Question 14 of 20

Find an equation of the circle that has center $(6, -5)$ and passes through $(2, 5)$.

Question 15 of 20

For each of the following, determine whether the equation defines y as a function of x .

$$2x = y^3$$

- Function
- Not a function

$$9 = |y| + x^2$$

- Function
- Not a function

$$36 + y^2 = x^2$$

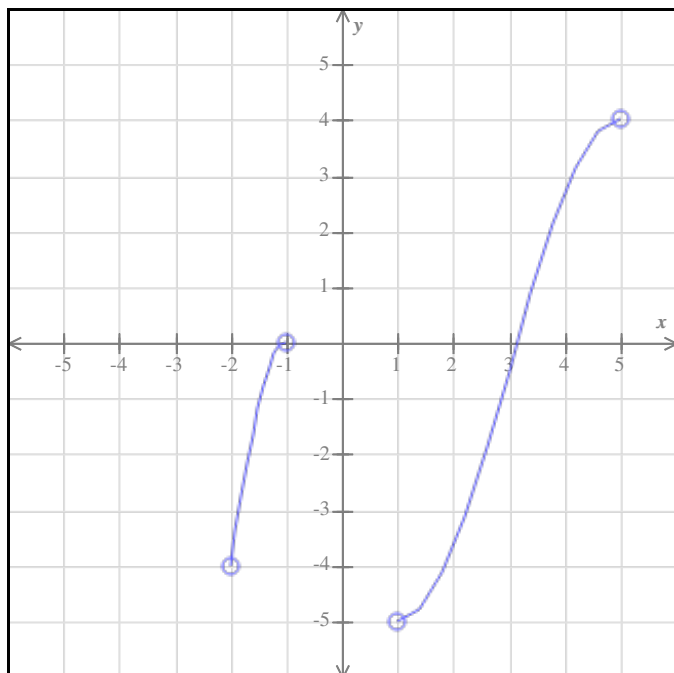
- Function
- Not a function

$$y = 6|x| - 3$$

- Function
- Not a function

Question 16 of 20

The entire graph of the function f is shown in the figure below.
Write the domain and range of f as intervals or unions of intervals.



Question 17 of 20

The function f is defined by $f(x) = \frac{5+x}{6+2x}$.

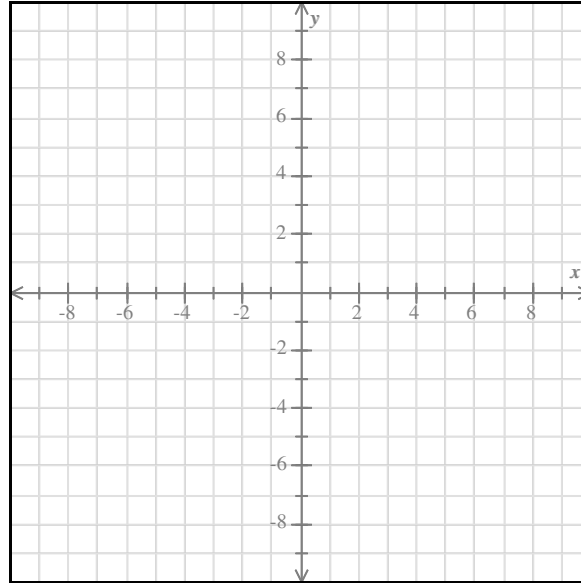
Find $f(2x)$.

Question 18 of 20

Give the equation of the circle centered at the origin and passing through the point $(-6, 0)$.

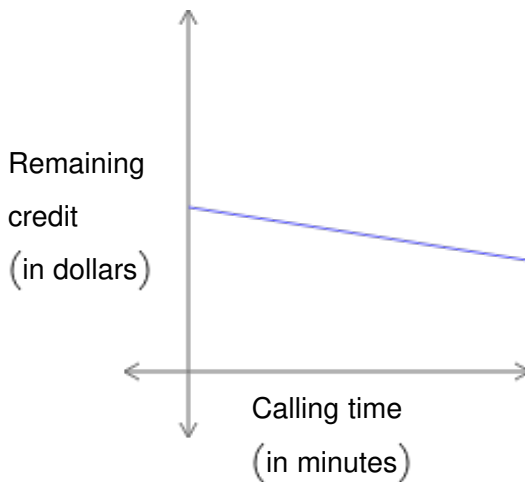
Question 19 of 20

Graph the line $y = 3$.



Question 20 of 20

The credit remaining on a phone card (in dollars) is a linear function of the total calling time made with the card (in minutes). The remaining credit after 38 minutes of calls is \$18.92, and the remaining credit after 65 minutes of calls is \$14.60. What is the remaining credit after 73 minutes of calls?



Practice Exam 2 #1 Answers for class Lacoste College Algebra Fall 2019

Question 1 of 20

$$x \leq -5$$

Question 2 of 20

$y = 6x^2 - 1$	<input checked="" type="radio"/> Function <input type="radio"/> Not a function
$x = 7y^2 + 5$	<input type="radio"/> Function <input checked="" type="radio"/> Not a function
$3x - y = 9$	<input checked="" type="radio"/> Function <input type="radio"/> Not a function
$y^2 = 9x$	<input type="radio"/> Function <input checked="" type="radio"/> Not a function

Question 3 of 20

$$\text{domain} = \{3, -3, 0\}$$
$$\text{range} = \{3, 4, -3\}$$

Question 4 of 20

$$\text{Distance: } \sqrt{61}$$

Question 5 of 20

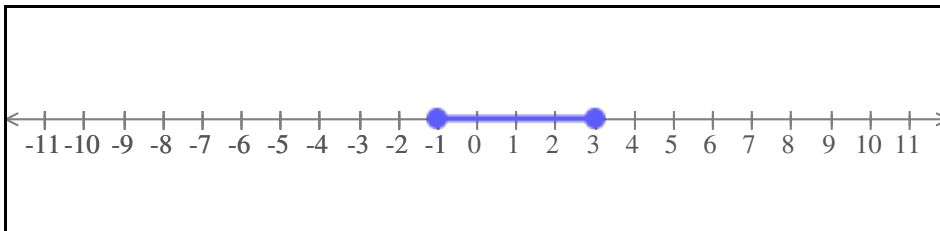
(a) Find the average rate of change for the height from 0 seconds to 2.2 seconds.

50 meters per second

(b) Find the average rate of change for the height from 6.6 seconds to 13.2 seconds.

– 30 meters per second

Question 6 of 20



Question 7 of 20

$$u = 3, -13$$

Question 8 of 20

Function?	<p>Graph 1</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Graph 2</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Graph 3</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>
	<p>Graph 4</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Graph 5</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Graph 6</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>

Question 9 of 20

$$(x + 1)^2 + (y - 2)^2 = 20$$

Question 10 of 20

$$u \leq 7$$

Question 11 of 20

domain: $(-\infty, \infty)$

range: $(-\infty, 1]$

Question 12 of 20

$$y^2 + 14y + 49$$

Question 13 of 20

$$x = 4$$

Question 14 of 20

$$(x - 6)^2 + (y + 5)^2 = 116$$

Question 15 of 20

$2x = y^3$	<input checked="" type="radio"/> Function <input type="radio"/> Not a function
$9 = y + x^2$	<input type="radio"/> Function <input checked="" type="radio"/> Not a function
$36 + y^2 = x^2$	<input type="radio"/> Function <input checked="" type="radio"/> Not a function
$y = 6 x - 3$	<input checked="" type="radio"/> Function <input type="radio"/> Not a function

Question 16 of 20

$$\text{domain} = (-2, -1) \cup (1, 5)$$

$$\text{range} = (-5, 4)$$

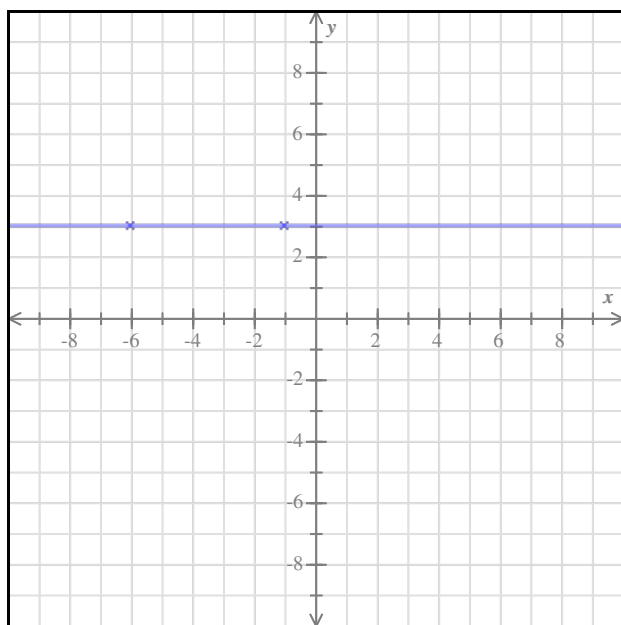
Question 17 of 20

$$f(2x) = \frac{5 + 2x}{6 + 4x}$$

Question 18 of 20

$$x^2 + y^2 = 36$$

Question 19 of 20



Question 20 of 20

\$13.32