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Alg1 Q4 Quiz 3 Review Piecewise Functions

1.) Consider the following relationship given by the formula $f(x) = \begin{cases} 2x + 6 & x < -1 \\ x^2 & x \geq -1 \end{cases}$

(a) Evaluate each of the following:

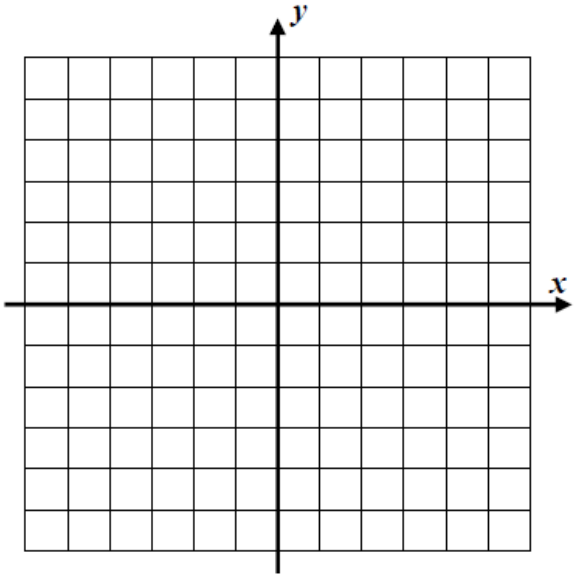
$f(-2) =$ $f(3) =$

(b) Carefully evaluate $f(-1)$

(c) Fill out the table below for the inputs given. Keep in mind which formula you are using.

x	Rule/Calculation	y	(x, y)
-5			
-4			
-3			
-2			
-1			
0			
1			
2			

(d) Graph $y = f(x)$ on the axes below.



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2.) Consider the following relationship given by the formula $f(x) = \begin{cases} -3x & x \leq 0 \\ 2x-6 & x > 0 \end{cases}$

(a) Evaluate each of the following:

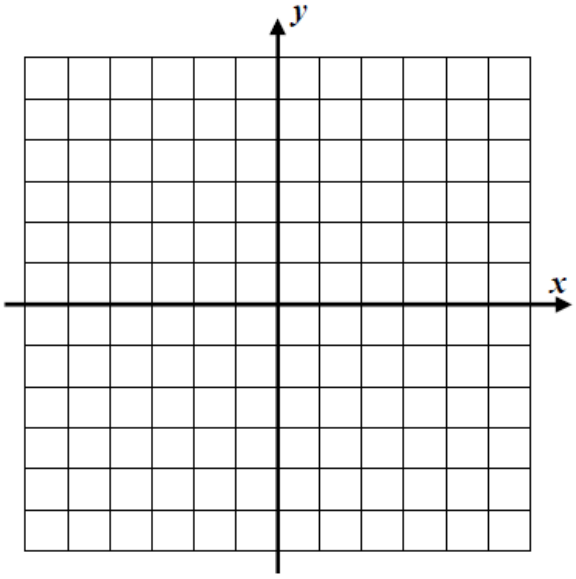
$f(-1) =$ $f(4) =$

(b) Carefully evaluate $f(0)$

(c) Fill out the table below for the inputs given. Keep in mind which formula you are using.

x	Rule/Calculation	y	(x, y)
-2			
-1			
0			
1			
2			
3			
4			
5			

(d) Graph $y = f(x)$ on the axes below.



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3.) Consider the following relationship given by the formula $f(x) = \begin{cases} -x + 1 & x < -2 \\ 3x + 1 & x \geq -2 \end{cases}$

(a) Evaluate each of the following:

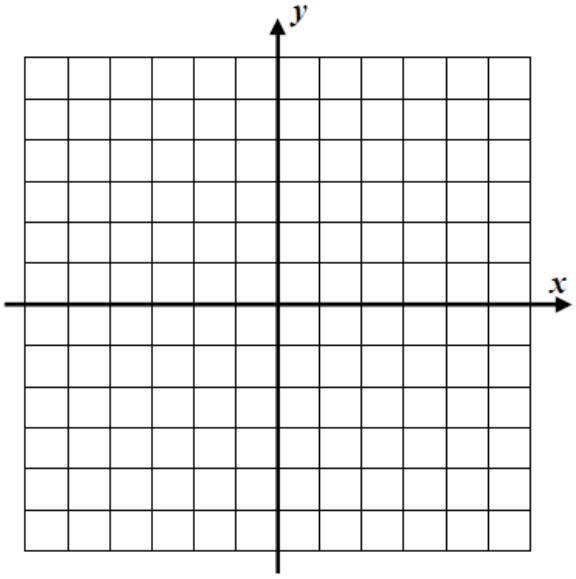
$f(-4) =$ $f(0) =$

(b) Carefully evaluate $f(-2)$

(c) Fill out the table below for the inputs given. Keep in mind which formula you are using.

x	Rule/Calculation	y	(x, y)
-5			
-4			
-3			
-2			
-1			
0			
1			

(d) Graph $y = f(x)$ on the axes below.



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4.) Consider the following relationship given by the formula $f(x) = \begin{cases} -2x - 2 & x \leq 0 \\ -x^2 & x > 0 \end{cases}$

(a) Evaluate each of the following:

$f(-3) =$ $f(1) =$

(b) Carefully evaluate $f(0)$

(c) Fill out the table below for the inputs given. Keep in mind which formula you are using.

x	Rule/Calculation	y	(x, y)
-4			
-3			
-2			
-1			
0			
1			
2			

(d) Graph $y = f(x)$ on the axes below.