

Algebra 2
2.6 Homework #1

Name: _____

Evaluate the graph at the specified domain value.

$$1. f(x) = \begin{cases} x + 5 & x < -2 \\ x^2 + 2x + 3 & x \geq -2 \end{cases}$$

a. $f(3)$	b. $f(-4)$	c. $f(-2)$
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$$2. f(x) = \begin{cases} 2x + 1 & x \geq 1 \\ x^2 + 3 & x < 1 \end{cases}$$

a. $f(-2)$	b. $f(6)$	c. $f(1)$
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$$3. f(x) = \begin{cases} -2x + 1 & x \leq 2 \\ 5x - 4 & x > 2 \end{cases}$$

a. $f(-4)$	b. $f(8)$	c. $f(2)$
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$$4. f(x) = \begin{cases} x^2 - 1 & x \leq 0 \\ 2x - 1 & 0 < x \leq 5 \\ 3 & x > 5 \end{cases}$$

a. $f(-2)$	b. $f(0)$	c. $f(5)$
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$$5. f(x) = \begin{cases} x^2 & x \leq 0 \\ -x^2 + 4 & x > 0 \end{cases}$$

a. $f(-4)$	b. $f(0)$	c. $f(3)$
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Evaluate the function for the given value of x.

$$f(x) = \begin{cases} 3, & \text{if } x \leq 0 \\ 2, & \text{if } x > 0 \end{cases}$$

$$g(x) = \begin{cases} x + 5, & \text{if } x \leq 3 \\ 2x - 1, & \text{if } x > 3 \end{cases}$$

$$h(x) = \begin{cases} \frac{1}{2}x - 4, & \text{if } x \leq -2 \\ 3 - 2x, & \text{if } x > -2 \end{cases}$$

1. $f(2)$	2. $f(-4)$	3. $f(0)$	4. $f(1/2)$
5. $g(7)$	6. $g(0)$	7. $g(-1)$	8. $g(3)$
9. $h(-4)$	10. $h(-2)$	11. $h(-1)$	12. $h(6)$

Key:

1a. $f(3) = 18$	1b. $f(-4) = 1$	1c. $f(-2) = 3$
2a. $f(-2) = 7$	2b. $f(6) = 13$	2c. $f(1) = 3$
3a. $f(-4) = 9$	3b. $f(8) = 36$	3c. $f(2) = -3$
4a. $f(-2) = 3$	4b. $f(0) = -1$	4c. $f(5) = 9$
5a. $f(-4) = 16$	5b. $f(0) = 0$	5c. $f(3) = -5$

1. $f(2) = 2$	2. $f(4) = 3$	3. $f(0) = 3$	4. $f(1/2) = 2$
5. $g(7) = 13$	6. $g(0) = 5$	7. $g(-1) = 4$	8. $g(3) = 8$
9. $h(-4) = -6$	10. $h(-2) = -5$	11. $h(-1) = 5$	12. $h(6) = -9$