

Name _____ Date _____ Pd _____

Algebra 2 Unit 1 Review

Solve. State the solution in set notation

1. $-3 - 6(4x + 6) > -111$

2. $-6(1 + 7k) + 7(1 + 6k) \leq -2$

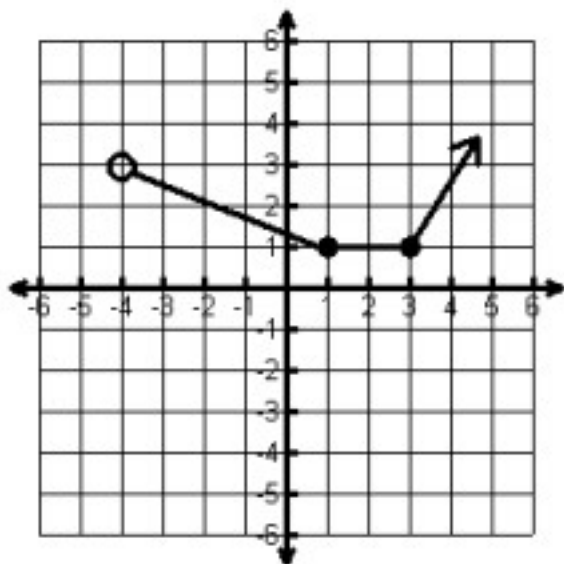
Solve. State the solution in interval notation.

3. $-2(5 + 6n) < 6(8 - 2n)$

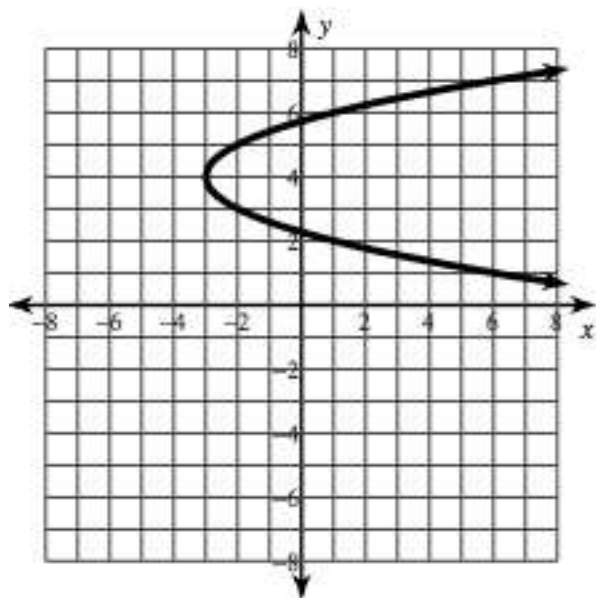
4. $1 - \frac{1}{2}(x - 5) \geq \frac{2}{3}x + 7$

State the domain and range in set and interval notation. Is the graph a function?

5.



6.



Evaluate.

7. $-12 + 7 - 8 \cdot 4 \div 2$

8. $-(5 - 8)^2 + 15 \div 3 \cdot 7$

9. $(5 - 2 \cdot 3)^2 - 3(5 \cdot 3 - 8)$

10. $-2^4 \cdot 3 + 8 - 5$

Use the equations of $f(x)$, $g(x)$ and $h(x)$ to evaluate. Give your answer in simplest form.

$$f(x) = x^2 - 3x + 4$$

$$g(x) = -8x + 7$$

$$h(x) = \begin{cases} |4x - 6| & x \leq 1 \\ \sqrt{x} & x > 1 \end{cases}$$

11. $g(5)$	12. $g\left(\frac{5}{16}\right)$	13. $h(1)$
14. $f(x) + g(x)$	15. $(g - f)(x)$	16. $3f(-2) + 4g(2)$
17. $f(x + 3)$	18. $h(0)$	19. $h(16)$

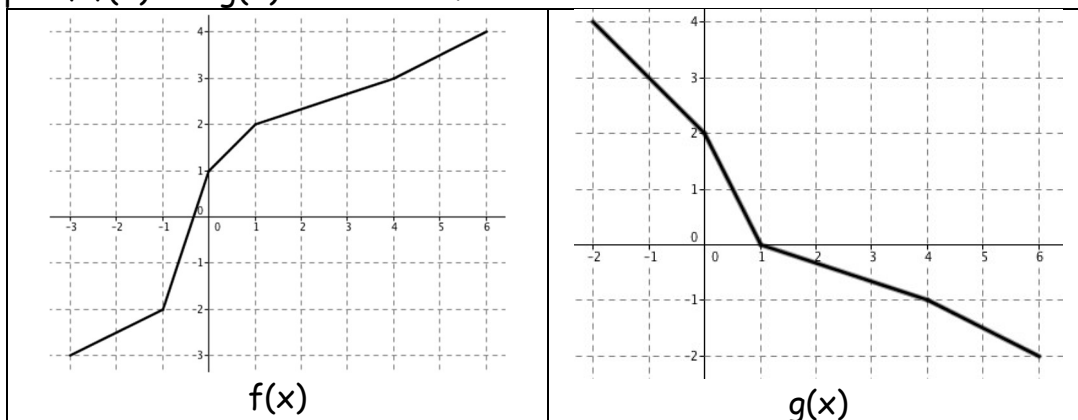
Graph (lines and piecewise functions). State the domain and range in interval notation.

20. $x - 4y = 4$	21. $y - 2 = 3(x + 1)$	22. $h(x) = \begin{cases} -x + 1 & x < 2 \\ \frac{1}{2}x - 4 & x \geq 2 \end{cases}$
------------------	------------------------	--

Graph. State domain and range in set notation.

23. $y = -3x + 5$	24. $f(x) = \begin{cases} 3 & x \leq -1 \\ -x & x > -1 \end{cases}$	25. $r(x) = \begin{cases} 2x + 1 & x \leq 0 \\ 1 & x > 0 \end{cases}$
-------------------	---	---

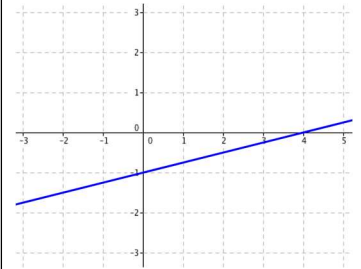
Use the graph of $f(x)$ and $g(x)$ to evaluate.



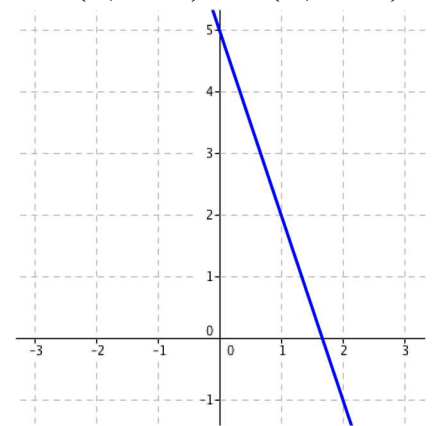
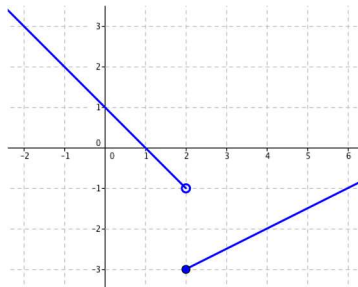
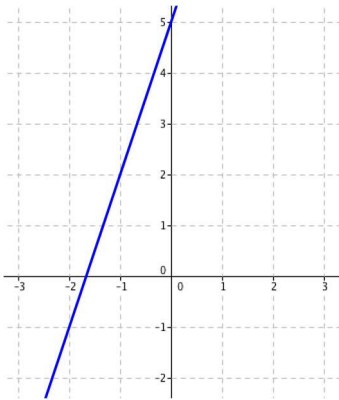
26. $f(1)$	27. $(f - g)(0)$	28. $f(-1) + g(4)$
------------	------------------	--------------------

ANSWERS

1. $\{x x < 3\}$	2. \emptyset	3. $(-\infty, \infty)$	4. $(-\infty, -3]$
5. D: $(-4, \infty)$, R: $[1, \infty)$; Yes the graph is a function	6. D: $[-3, \infty)$, R: $(-\infty, \infty)$; No the graph is not a function	7. -21	8. 26
9. -20	10. -45	11. -33	12. 9/2
13. 2	14. $x^2 - 11x + 11$	15. $-x^2 - 5x + 3$	16. 6
17. $x^2 + 3x + 4$	18. 6	19. 4	20. D: $(-\infty, \infty)$, R: $(-\infty, \infty)$



21. D: $(-\infty, \infty)$, R: $(-\infty, \infty)$	22. D: $(-\infty, \infty)$, R: $[-3, \infty)$	23. D: $\{x x \in R\}$, R: $\{y y \in R\}$
---	--	---



24. D: $\{x x \in R\}$, R: $\{y y < 1 \text{ or } y = 3\}$	25. D: $\{x x \in R\}$, R: $\{y y \leq 1\}$	26. 2
27. -1	28. -3	

