

Review Test 1.1, 1.4, 1.6, 1.7 Algebra 2

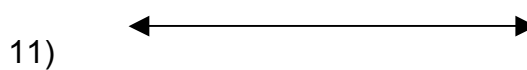
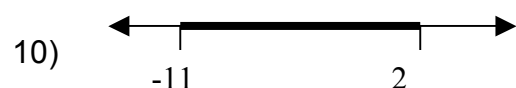
Classify each value by the subsets of real numbers to which it belongs. Use the symbols.

- 1) -23 2) $0.\ddot{7}$ 3) $3\sqrt{5}$ 4) 0 5) .75

- 7) The even numbers greater than 2 8) the numbers less than -6

- 9) the number of students in our algebra 2 class

Write the following in interval notation.

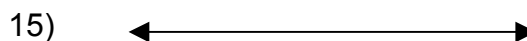


- 12) $\{-3 < x \leq 1 \text{ OR } x > 2\}$

- 13) the real numbers greater than 3.

Write the following in roster notation, if possible.

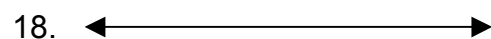
14. the odd numbers greater than 6.



16. the real numbers greater than -4

17. $-2 \leq x \leq 1$

Write the following in set builder notation.



19. the set of integers between -2 and 5 including 5

Simplify the following:

20. $3a^2 - 4ab + 2a^2 + a^2 - 3ab$

21. $4(y^2 - 2y) - 3(4y) - y^2$

22. $-2a(3b - 4) + 8a$

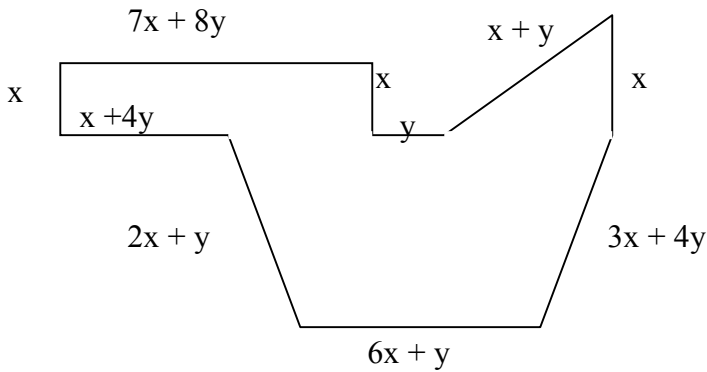
Evaluate with $x = -2$, $y = 5$

23. $4x^2 + y$

24. $\frac{2x - 3y}{5x}$

25. $7 - 3y + 2x + y^2$

26. **Find the perimeter:**



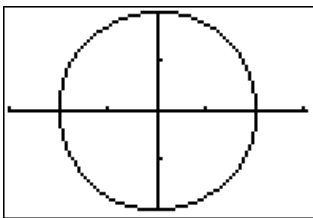
27. A used car salesman is selling 200 trucks and SUV's. He earns a commission of \$80 for every truck and \$65 for every SUV he sells.

a) Write an expression to model the total he will make selling a combination of the two types of vehicles with the trucks as the independent variable.

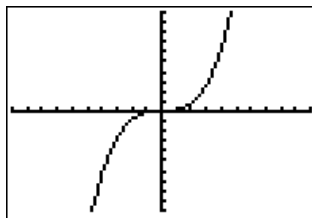
b) How much will he make if he sells 16 trucks?

Are the following functions?

28.



29.



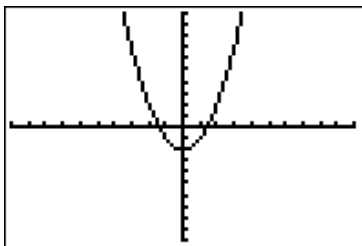
30.

x	Y
2	-3
1	-4
0	-5
1	-6

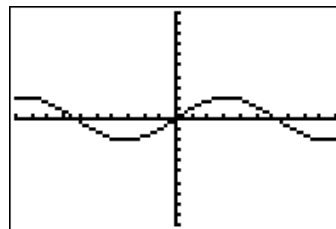
31. If the Domain represents each student in the class and the Range represents the grade they will make on this test.

State the Domain and Range of each

32.



33.

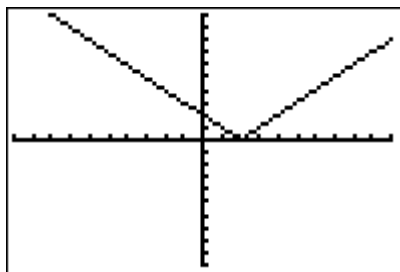


Evaluate each function at the given value:

34. $f(x) = 4 - 3x^2$ find $f(2)$ and $f(-1)$

35. $f(x) = x^2 - 2x + 1$ find $f(0)$ and $f(-3)$

36.



find $f(-3)$, $f(1)$, and $f(4)$

37. An electrician charges a service charge of \$60 plus \$35 an hour. Write a function to model what he charges. What would he make if he worked 3 hours?

ANSWERS:

1. Q, Z	2. Q	3. Irr	4. Irr	5. Q, Z, W, N	6. Q
7. Q, Z, W, N	8. Q, Z	9. Q, Z, W, N	10. $[-11, 2)$	11. $(-\infty, -2]$ or $(3, +\infty)$	12. $[-3, 1)$ or $(2, +\infty)$
13. $3, +\infty)$	14. $\{7, 9, 11, 13, \dots\}$	15. $\{-4, -1, 0, 2\}$	16. not possible	17. not possible	18. $\{x \mid -7 < x \leq 3\}$
19. $\{x \mid -2 < x \leq 5, x \in Z\}$	20. $6a^2 - 7ab$	21. $3y^2 - 20y$	22. $-6ab$	23. 21	24. $\frac{19}{10}$
25. -37	26. $23x + 20y$	27. $13000 + 15t$ 14,740	28. no	29. yes	30. no
31. yes	32. D: $\{x \mid x \in R\}$ R: $\{y \mid y \geq 0\}$	33. D: $\{x \mid x \in R\}$ R: $\{y \mid -2 \leq y \leq 2\}$	34. -8; 3	35. 1; 16	36. 5, 1, 2

There are 4 wrong answers (that I will admit to) on this sheet. If you find the 4 problems that you believe have incorrect answers: turn in a separate sheet of paper with a heading and list the problem numbers that you suspect have the wrong answer and list the reason why. Also, explain the correct solution. Each problem you find that is incorrect will give you one bonus point on your test! Good luck!