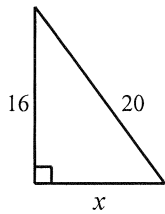


Review Sheet up to Lesson 98
Algebra 1 Accelerated

Name: _____

SHOW YOUR WORK

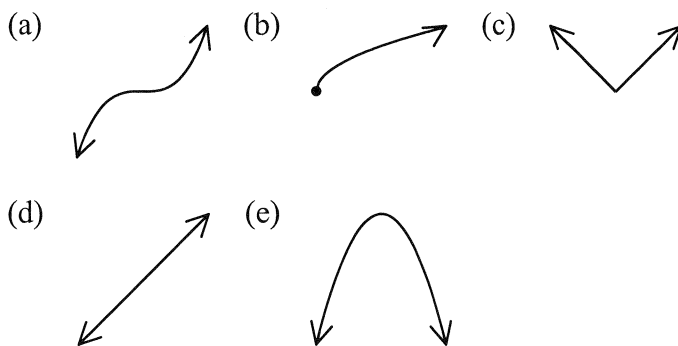
1. Find the slope of the line passing through the points $(-2, 8)$ and $(-3, 6)$.
2. Find the distance between $(-8, -2)$ and $(6, 1)$.
3. Use the Pythagorean Theorem to find x .



4. Use the difference of squares theorem to find all of the solutions to the following equations:
(a) $c^2 = 4$ (b) $d^2 = 112$ (c) $e^2 = 5$
5. Given are the following five functions:

$$f(x) = x + 4 \quad g(x) = x^3 + 5 \quad h(x) = \sqrt{x} \quad j(x) = 5 - x^2 \quad k(x) = |x| + 4$$

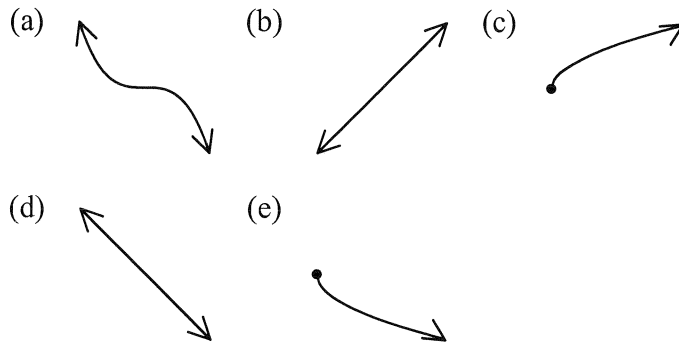
Shown below are five shapes. For each shape identify which function has a graph that most resembles the shape.



6. Given are the following five functions:

$$f(x) = 3 - x^3 \quad g(x) = -\sqrt{x} \quad h(x) = x + 4 \quad j(x) = 4 - x \quad k(x) = \sqrt{x}$$

Shown below are five shapes. For each shape identify which function has a graph that most resembles the shape.



7. The hobos were 260 miles apart at 2:00 p.m. and were headed toward each other. If they met at 5:15 p.m. and one was traveling 10 miles per hour faster than the other, what was the speed of each hobo?

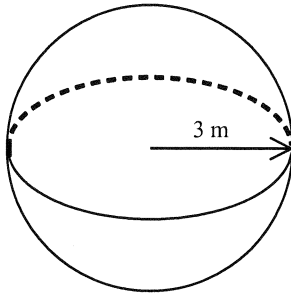
Divide:

8. $\frac{x^2 + x - 2}{x^2 - x} \div \frac{x^2 + 10x + 16}{x^3 + 15x^2 + 56x}$

9. $\frac{y^2 - 4y + 4}{y^2 + 3y - 10} \div \frac{y^2 - 4}{y^2 - y - 30}$

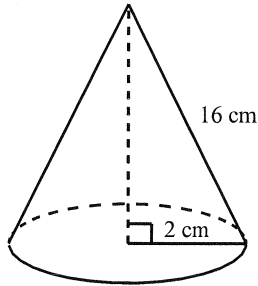
10. Shelly put on her jogging shoes and ran to the park at 8 miles per hour. Then she walked back at 4 miles per hour. If the total trip took 6 hours, how far was it to the park?

11. Find the volume and surface area of the sphere shown whose radius is 3 m. (Use 3.14 for π .)



12. Graph the following inequality on a number line: $-2x + 4 < 16$; $D = \{\text{Integers}\}$
13. Graph the following inequality on a number line: $-2x - 8 \geq -18$; $D = \{\text{Real numbers}\}$
14. The sum of the ages of Petra and her mother is 47. Her mother is 14 years more than twice as old as Petra. How old are Petra and her mother?
15. The sum of two numbers is one hundred seventy. Their difference is fifty. What are the numbers?
16. Solve: $x^2 - 3x = 40$
17. Divide. $(x^3 - 6x + 4) \div (x - 2)$
18. If $g(x) = -x^2 + 2$ find $g(d - 7)$.
19. Solve by graphing:
 $y = -3x - 6$
 $y = -x$
20. Simplify: $\frac{(0.00000005)(6 \times 10^2)}{(3000 \times 10^{-7})(0.000002)}$
21. Solve: $\frac{x}{9} - \frac{x+2}{6} = \frac{1}{3}$

22. Find four consecutive even integers such that 5 times the sum of the first and second is 14 less than 9 times the fourth.
23. Find the surface area of a cone if the radius is 2 cm and the slant height is 16 cm.



24. Mae rolls a fair die three times and each time she rolls a five. What is the probability that on her next roll she will roll a one?
25. The school being featured in a newspaper article caused the number of students enrolled to increase by 330 percent. If 270 students were enrolled before the article, how many were there after the article?

[1] 2

[2] $\sqrt{205}$

[3] 12

(a) $c = \pm 2$

(b) $d = \pm 4\sqrt{7}$

[4] (c) $e = \pm\sqrt{5}$

(a) $g(x) = x^3 + 5$ (b) $h(x) = \sqrt{x}$ (c) $k(x) = |x| + 4$ (d) $f(x) = x + 4$ (e)

[5] $j(x) = 5 - x^2$

(a) $f(x) = 3 - x^3$ (b) $h(x) = x + 4$ (c) $k(x) = \sqrt{x}$ (d) $j(x) = 4 - x$ (e)

[6] $g(x) = -\sqrt{x}$

[7] 35 mph, 45 mph

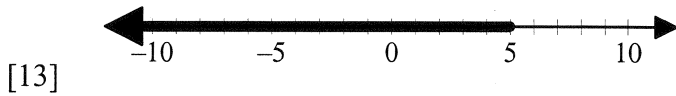
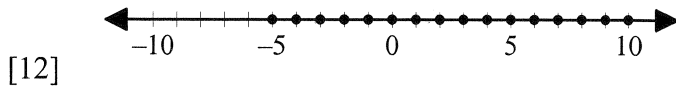
[8] $x + 7$

$\frac{y - 6}{y + 2}$

[9] $y + 2$

[10] 16 miles

[11] $113.04 \text{ m}^3, 113.04 \text{ m}^2$



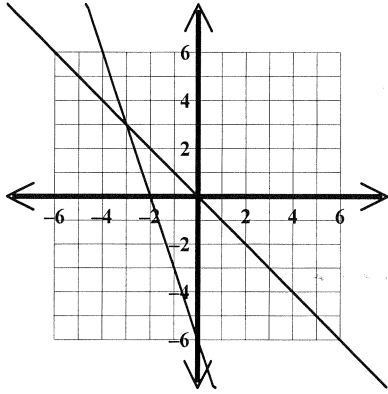
[14] 11, 36

[15] 60 and 110

[16] -5, 8

[17] $x^2 + 2x - 2$

[18] $-d^2 + 14d - 47$



[19] (-3, 3)

[20] 50,000

[21] -12

[22] 30, 32, 34, 36

[23] 113.04 cm²

[24] $\frac{1}{6}$

[25] 1161