

## Algebra Unit 1 Review

- What is the result of  $(4x - 8) + (x + 16)$ ?
  - $4x + 8$
  - $5x + 8$
  - $4x + 24$
  - $5x + 16$
- What is the result of  $(-2x^3 + x) + (3x - 6)$ ?
  - $-6x - 6$
  - $-2x^3 - 6$
  - $-2x^3 + 4x$
  - $-2x^3 + 4x - 6$
- What is the result of  $(x^2 - 10x) - (-5x^2 + x)$ ?
  - $-4x^2 - 9x$
  - $-4x^2 - 11x$
  - $6x^2 + 9x$
  - $6x^2 - 11x$
- What is the result of  $(-x + 2)(x + 3)$ ?
  - $-x^2 - x + 6$
  - $x^2 + 5x + 6$
  - $-x^2 + 6$
  - $x^2 - 6$
- What is the result of  $(x^2 + 1)(-x^3 - 4x + 2)$ ?
  - $x^5 - 5x^3 + 2x^2 + 4x + 2$
  - $-x^5 - 5x^3 + 2x^2 - 4x + 2$
  - $-x^4 - 4x^3 + 2x^2$
  - $-x^6 - 4x^4 + 2x^2 + 2$
- How many terms are in the expression  $36x^3 + 27x^2 - 18x - 9$ ?
  - 3
  - 7
  - 4
  - 9
- What are the factors in the expression  $11x^2 + 7x - 4$ ?
  - 11 and  $x^2$ , 7 and  $x$
  - 11 and 7
  - There aren't any factors in this expression.
  - $x$

8. What are the term(s), coefficient, and constant described by the phrase, “the cost of 4 tickets to the football game,  $t$ , and a service charge of \$10”?
- term:  $4t$ , coefficient: 4, constant: 10
  - terms:  $4t$  and 10, coefficient: 10, constant: 4
  - term:  $14t$ , coefficient: 14, constant: none
  - terms:  $4t$  and 10, coefficient: 4, constant: 10

9. Evaluate  $-3\sqrt{20} - \sqrt{5}$
- $-\sqrt{5}$
  - $-7\sqrt{5}$
  - $-3\sqrt{15}$
  - already simplified

10. Multiply. Write the product in simplest form.

$$\sqrt{9}(\sqrt{3} + \sqrt{8})$$

- $9\sqrt{3} + 18\sqrt{2}$
  - $3\sqrt{11}$
  - $\sqrt{27} + \sqrt{72}$
  - $3\sqrt{3} + 6\sqrt{2}$
11. Multiply. Write the product in simplest form.
- $5\sqrt{8} \cdot 7\sqrt{3}$
- A.  $35\sqrt{5}$       B.  $70\sqrt{6}$       C.  $140\sqrt{6}$       D.  $-2\sqrt{5}$
12. The area of a square garden is 173 square feet. Estimate the side length of the garden.
- 16 ft
  - 11 ft
  - 15 ft
  - 13 ft
13. Find the perimeter of a triangle whose side lengths are 15 cm,  $8\sqrt{7}$  cm, and  $\sqrt{112}$  cm. Give the answer as a radical expression in simplest form.
- $(15 + 8\sqrt{7} + \sqrt{112})$  cm
  - $(15 + 12\sqrt{7})$  cm
  - $(15 + 24\sqrt{7})$  cm
  - $27\sqrt{7}$  cm

14. Identify an irrational number.

- a. 49
- b.  $\sqrt{24}$
- c.  $\sqrt{169}$
- d. 2.5

15. Which of the following is simultaneously a natural number, a whole number, a rational number and an integer?

- a. -13
- b. -9.5
- c. 57
- d.  $\sqrt{36}$

16. Is the sum of two rational numbers rational or irrational? Explain.

17. Is the product of an irrational and a rational number rational or irrational? Explain.

18. Convert 459L to milliliter. Show all of your work.

19. Convert \$25 to dimes. Show all of your work.

20. Convert 10 weeks into minutes. Show all of your work.