

Name: _____

HW# _____

Date: _____

REVIEW FOR UNIT 8 TEST

- The roots of the equation $2x^2 - 8x = 0$ are
 - (1) -2 and 2
 - (2) $0, -2$ and 2
 - (3) 0 and -4
 - (4) 0 and 4
- The solutions of the equation $x^2 = 100$ are
 - (1) -50 and 50
 - (2) -25 and -25
 - (3) -10 and 10
 - (4) -5 and -5
- What is the solution of $x^2 + 64 = 0$
 - (1) -5
 - (2) 8
 - (3) ± 8
 - (4) no solutions
- What is the solution set of the equation $(x - 2)(x - a) = 0$?
 - 1) -2 and a
 - 2) -2 and $-a$
 - 3) 2 and a
 - 4) 2 and $-a$
- How many real solutions does the equation $x^2 + 4x + 1 = 0$
 - (1) 0
 - (2) 1
 - (3) 2
 - (4) 3
- What is the nature of the roots of $6x^2 - 3x - 12 = 0$
 - 1) real, rational, and equal
 - 2) real, rational, and unequal
 - 3) real, irrational, and unequal
 - 4) imaginary
- The x-intercepts of $x^2 = 16x - 28$ are
 - 1) -2 and -14
 - 2) 2 and 14
 - 3) -4 and -7
 - 4) 4 and 7

8. What is the nature of the roots of $f(x) = x^2 + 2x + 1$

- 1) real, rational, and equal
- 2) real, rational, and unequal
- 3) real, irrational, and unequal
- 4) imaginary

9. If the roots of a quadratic equation are -2 and 3, the equation can be written as

- 1) $(x - 2)(x + 3) = 0$
- 2) $(x + 2)(x - 3) = 0$
- 3) $(x + 2)(x + 3) = 0$
- 4) $(x - 2)(x - 3) = 0$

10. Which value of c will make the roots of the equation $x^2 - 8x + c = 0$ real and equal?

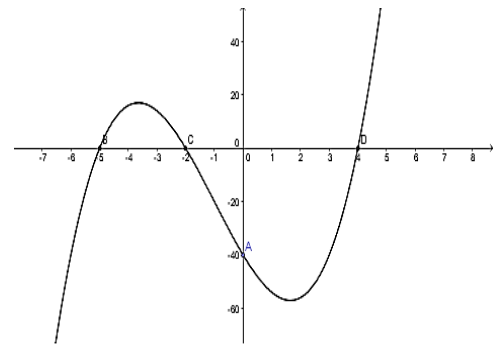
- | | |
|--------|-------|
| 1) -16 | 3) 0 |
| 2) -4 | 4) 16 |

11. Which expression has -5 and 3 as its roots?

- | | |
|-------------------------|-------------------------|
| (1) $x^2 + 2x + 15 = 0$ | (3) $x^2 - 2x + 15 = 0$ |
| (2) $x^2 - 2x - 15 = 0$ | (4) $x^2 + 2x - 15 = 0$ |

12. The graph $f(x)$ is shown to the right. The roots of the function are

- 1) {2,4,5}
- 2) {-5,-4,-2}
- 3) {-5,0,4}
- 4) {-5,-2,4}



13. Which expression gives the solutions of $-5 + 2x^2 = -6x$

- | | |
|--|---|
| (1) $x = \frac{2 \pm \sqrt{4 - (4)(6)(-5)}}{12}$ | (3) $x = \frac{-6 \pm \sqrt{36 - (4)(2)(-5)}}{4}$ |
| (2) $x = \frac{-5 \pm \sqrt{25 - (4)(2)(6)}}{-10}$ | (4) $x = \frac{6 \pm \sqrt{36 - (4)(2)(5)}}{4}$ |

14. The method of completing the square was used to solve the equation $2x^2 - 12x + 6 = 0$. Which equation is a correct step when using this method?

- 1) $(x - 3)^2 = 6$
- 2) $(x - 3)^2 = -6$
- 3) $(x - 3)^2 = 3$
- 4) $(x - 3)^2 = -3$

15. The solution set of $\frac{x+5}{4} = \frac{5}{x-3}$ is

- 1) $\{-7, -5\}$
- 2) $\{7, -5\}$
- 3) $\{-7, 5\}$
- 4) $\{7, 5\}$

16. The roots of the equation $2x^2 + 7x - 3 = 0$ are

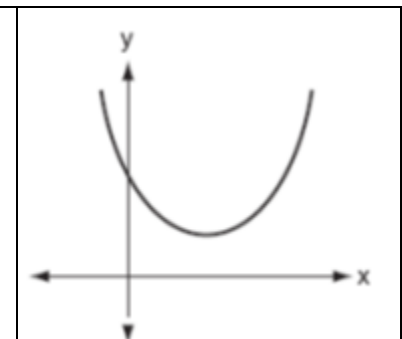
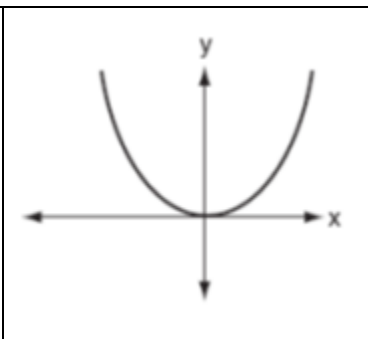
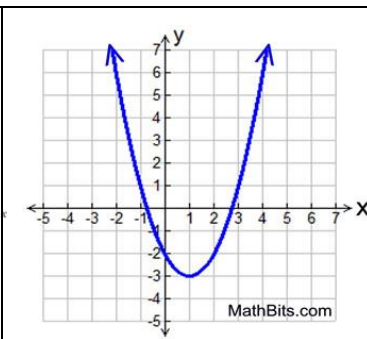
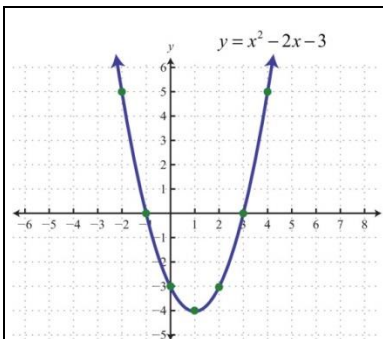
- 1) $-\frac{1}{2}$ and -3
- 2) $\frac{1}{2}$ and 3
- 3) $\frac{-7 \pm \sqrt{73}}{4}$
- 4) $\frac{7 \pm \sqrt{73}}{4}$

17. Put in simplest radical form

a. $\frac{-5 \pm 10\sqrt{35}}{5}$

b. $\frac{4 \pm \sqrt{32}}{8}$

18. Describe the roots for each quadratic function.



19. The product of two consecutive negative EVEN integers is 168. What are the integers?

20. The length of a rectangle is six more than the width. If the area is twenty-one, what are the dimensions of the rectangle, to the nearest tenth? (Use **completing the square**)

21. A ball is thrown into the air with an initial upward velocity of 60 ft/s. Its height h in feet after t seconds is given by the function $h = -16t^2 + 60t + 6$. After how many seconds will the ball hit the ground? Round to the nearest tenth of a second.