

Final Review #2 - Solving Quadratics (Unit 9A)

Date _____ Period _____

1) Given $g(x) = 3x + 2$ and $h(x) = (x - 2)^2$, which statement is true?

- A) $h(-1) > g(4)$ B) $h(3) > g(3)$
C) $g(3) > h(3)$ D) $g(-1) > h(1)$

2) Given $g(x) = x^2 + 1$ and $h(x) = (x + 1)^2$, which statement is true?

- A) $h(1) > g(3)$ B) $h(-3) > g(-3)$
C) $g(-2) > h(2)$ D) $g(-1) > h(-2)$

3) Which function makes this true:

$$f(2) > f(-3)$$

- A) $f(x) = x^2 - 3$
B) $f(x) = -5x - 2$
C) $f(x) = (x - 2)^2$
D) $f(x) = 2x - 1$

4) Which function makes this true:

$$f(-4) > f(3)$$

- A) $f(x) = 3x - 4$
B) $f(x) = x^2 + 5$
C) $f(x) = (x + 3)^2$
D) $f(x) = (x + 1)^2$

Solve each equation by factoring.

5) $x^2 - 5x - 14 = 0$

6) $p^2 + 11p + 28 = 0$

7) $3r^2 - 21r + 35 = 5$

8) $r^2 - 10r + 21 = 5$

9) $x^2 + 8x = 7x + 20$

10) $10k^2 + 45 = 7k^2 + 24k$

What value of x makes the equation true?

11) $5x^2 + 90 = -45x$

12) $x^2 = 42 - x$

Solve each equation by taking square roots.

13) $2m^2 = 128$

14) $3x^2 = 147$

15) $x^2 - 4 = 77$

16) $2m^2 - 8 = 90$

17) $2n^2 - 5 = 59$

18) $2n^2 + 10 = 12$

Solve each equation with the quadratic formula.

19) $2x^2 + 7x - 60 = 0$

20) $6a^2 - 3a + 9 = 0$

21) $12x^2 - 4x - 18 = 0$

22) $x^2 - 10x + 11 = 0$

Answers to Final Review #2 - Solving Quadratics (Unit 9A)

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|---|--|---------------------------------------|------------------|
| 1) C | 2) D | 3) D | 4) B |
| 5) $\{-2, 7\}$ | 6) $\{-7, -4\}$ | 7) $\{5, 2\}$ | 8) $\{8, 2\}$ |
| 9) $\{4, -5\}$ | 10) $\{3, 5\}$ | 11) $\{-3, -6\}$ | 12) $\{6, -7\}$ |
| 13) $\{8, -8\}$ | 14) $\{7, -7\}$ | 15) $\{9, -9\}$ | 16) $\{7, -7\}$ |
| 17) $\{4\sqrt{2}, -4\sqrt{2}\}$ | 18) $\{1, -1\}$ | 19) $\left\{4, -7\frac{1}{2}\right\}$ | 20) No solution. |
| 21) $\left\{\frac{1 + \sqrt{55}}{6}, \frac{1 - \sqrt{55}}{6}\right\}$ | 22) $\{5 + \sqrt{14}, 5 - \sqrt{14}\}$ | | |