

5-5

Complex Numbers and Roots

Warm Up

Simplify each expression.

1. $\sqrt{108}$
2. $\sqrt{6} \cdot \sqrt{24}$
3. $\frac{\sqrt{42}}{-\sqrt{3}}$

Find the zeros of each function.

4. $f(x) = x^2 - 18x + 16$
5. $f(x) = x^2 + 8x - 24$

5-6

The Quadratic Formula

Warm Up

Write each function in standard form

1. $f(x) = (x - 4)^2 + 3$
2. $g(x) = 2(x + 6)^2 - 11$

Evaluate $b^2 - 4ac$ for the given values of the variables.

3. $a = 2, b = 7, c = 5$
4. $a = 1, b = 3, c = -3$

5-5

Complex Numbers and Roots

Warm Up

Simplify each expression.

1. $\sqrt{108}$ $6\sqrt{3}$

2. $\sqrt{6} \cdot \sqrt{24}$ 12

3. $\frac{\sqrt{42}}{-\sqrt{3}}$ $-\sqrt{14}$

Find the zeros of each function.

4. $f(x) = x^2 - 18x + 16$ $9 \pm \sqrt{65}$

5. $f(x) = x^2 + 8x - 24$ $-4 \pm 2\sqrt{10}$

5-6

The Quadratic Formula

Warm Up

Write each function in standard form

1. $f(x) = (x - 4)^2 + 3$ $f(x) = x^2 - 8x + 19$

2. $g(x) = 2(x + 6)^2 - 11$ $g(x) = 2x^2 + 24x + 61$

Evaluate $b^2 - 4ac$ for the given values of the variables.

3. $a = 2, b = 7, c = 5$ 9

4. $a = 1, b = 3, c = -3$ 21