WARM UP TRANSPARENCY



Warm Up

Identify the domain and range of each function.

1.
$$f(x) = x^2 + 2$$

2.
$$f(x) = 3x^3$$

Use the description to write the quadratic function g based on the parent function $f(x) = x^2$.

- **3.** *f* is translated 3 units up.
- 4. *f* is translated 2 units left.

8-8 Solving Radical Equations and Inequalities

Warm Up

Simplify each expression. Assume all variables are positive.

- **1.** $2\sqrt{27x} + 3\sqrt{12x}$
- **2.** $\sqrt{72y^5}$
- **3.** $\sqrt[3]{(x+2)^3}$
- **4.** $\sqrt{2(48y)}$

Write each expression in radical form.

- 5. $(x+6)^{\frac{1}{2}}$
- 6. $(3y+4)^{\frac{3}{5}}$

WARM UP TRANSPARENCY



Warm Up

Identify the domain and range of each function.

- **1.** $f(x) = x^2 + 2$ **D:** \mathbb{R} ; \mathbb{R} : { $y | y \ge 2$ }
- **2.** $f(x) = 3x^3$ **D: R; R: R**

Use the description to write the quadratic function g based on the parent function $f(x) = x^2$.

3. *f* is translated 3 units up. $g(x) = x^2 + 3$

4. f is translated 2 units left. $g(x) = (x + 2)^2$

8-8 Solving Radical Equations and Inequalities

Warm Up

Simplify each expression. Assume all variables are positive.

- **1.** $2\sqrt{27x} + 3\sqrt{12x}$ **12** $\sqrt{3x}$
- **2.** $\sqrt{72y^5}$ **6** $y^2\sqrt{2y}$
- **3.** $\sqrt[3]{(x+2)^3}$ **x**+2
- **4.** $\sqrt{2(48y)}$ **4** $\sqrt{6y}$

Write each expression in radical form.

- 5. $(x+6)^{\frac{1}{2}} \sqrt{x+6}$
- 6. $(3y+4)^{\frac{3}{5}} \sqrt[5]{(3y+4)^3}$