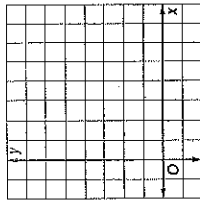


### 10-1 Skills Practice

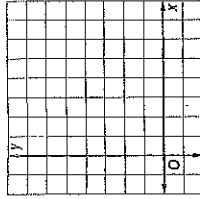
#### Square Root Functions

Graph each function, and compare to the parent graph. State the domain and range.

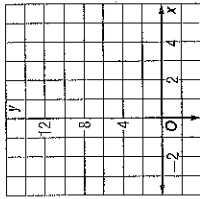
1.  $y = 2\sqrt{x}$



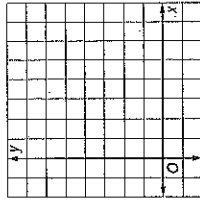
2.  $y = \frac{1}{2}\sqrt{x}$



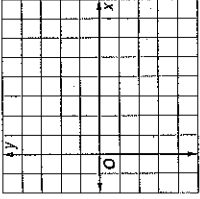
3.  $y = 5\sqrt{x}$



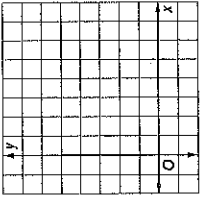
4.  $y = \sqrt{x+1}$



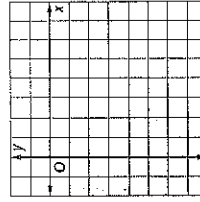
5.  $y = \sqrt{x-4}$



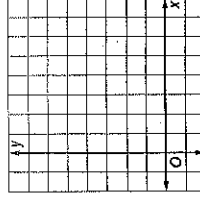
6.  $y = \sqrt{x-1}$



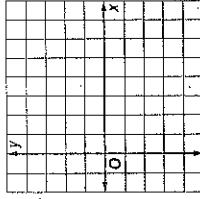
7.  $y = -\sqrt{x-3}$



8.  $y = \sqrt{x-2} + 3$



9.  $y = -\frac{1}{2}\sqrt{x-4} + 1$



### 10-2 Skills Practice

#### Simplifying Radical Expressions

Simplify each expression.

1.  $\sqrt{28}$

2.  $\sqrt{40}$

3.  $\sqrt{72}$

4.  $\sqrt{99}$

5.  $\sqrt{2} \cdot \sqrt{10}$

6.  $\sqrt{5} \cdot \sqrt{60}$

7.  $3\sqrt{5} \cdot \sqrt{5}$

8.  $\sqrt{6} \cdot 4\sqrt{24}$

9.  $2\sqrt{3} \cdot 3\sqrt{15}$

10.  $\sqrt{16b^4}$

11.  $\sqrt{81a^2d^4}$

12.  $\sqrt{40x^2y^8}$

13.  $\sqrt{75m^3P^2}$

14.  $\sqrt{\frac{5}{3}}$

15.  $\sqrt{\frac{1}{6}}$

16.  $\sqrt{\frac{6}{7}} \cdot \sqrt{\frac{1}{3}}$

17.  $\sqrt{\frac{9}{12}}$

18.  $\sqrt{\frac{4h}{5}}$

19.  $\sqrt{\frac{12}{b^2}}$

20.  $\sqrt{\frac{45}{4m^4}}$

21.  $\frac{2}{4 + \sqrt{5}}$

22.  $\frac{3}{2 - \sqrt{3}}$

23.  $\frac{5}{7 + \sqrt{7}}$

24.  $\frac{4}{3 - \sqrt{2}}$

**10-5 Skills Practice****Operations with Radical Expressions**

Simplify each expression.

1.  $7\sqrt{7} - 2\sqrt{7}$

2.  $3\sqrt{13} + 7\sqrt{13}$

3.  $6\sqrt{5} - 2\sqrt{5} + 8\sqrt{5}$

4.  $\sqrt{15} + 8\sqrt{15} - 12\sqrt{15}$

5.  $12\sqrt{7} - 9\sqrt{7}$

6.  $9\sqrt{6a} - 11\sqrt{6a} + 4\sqrt{6a}$

7.  $\sqrt{44} - \sqrt{11}$

8.  $\sqrt{28} + \sqrt{63}$

9.  $4\sqrt{3} + 2\sqrt{12}$

10.  $8\sqrt{54} - 4\sqrt{6}$

11.  $\sqrt{27} + \sqrt{48} + \sqrt{12}$

12.  $\sqrt{72} + \sqrt{50} - \sqrt{8}$

13.  $\sqrt{180} - 5\sqrt{5} + \sqrt{20}$

14.  $2\sqrt{24} + 4\sqrt{54} + 5\sqrt{96}$

15.  $5\sqrt{8} + 2\sqrt{20} - \sqrt{8}$

16.  $2\sqrt{13} + 4\sqrt{2} - 5\sqrt{13} + \sqrt{2}$

17.  $\sqrt{2}(\sqrt{8} + \sqrt{6})$

18.  $\sqrt{5}(\sqrt{10} - \sqrt{3})$

19.  $\sqrt{6}(3\sqrt{2} - 2\sqrt{3})$

20.  $3\sqrt{3}(2\sqrt{6} + 4\sqrt{10})$

21.  $(4 + \sqrt{3})(4 - \sqrt{3})$

22.  $(2 - \sqrt{6})^2$

23.  $(\sqrt{8} + \sqrt{2})(\sqrt{5} + \sqrt{3})$

24.  $(\sqrt{6} + 4\sqrt{5})(4\sqrt{3} - \sqrt{10})$

**10-4 Skills Practice****Radical Equations**

Solve each equation. Check your solution.

1.  $\sqrt{f} = 7$

2.  $\sqrt{-x} = 6$

3.  $\sqrt{5p} = 10$

4.  $\sqrt{4y} = 6$

5.  $2\sqrt{2} = \sqrt{u}$

6.  $3\sqrt{5} = \sqrt{-n}$

7.  $\sqrt{g} - 6 = 3$

8.  $\sqrt{5a} + 2 = 0$

9.  $\sqrt{2t - 1} = 5$

10.  $\sqrt{3k - 2} = 4$

11.  $\sqrt{x + 4} - 2 = 1$

12.  $\sqrt{4x - 4} - 4 = 0$

13.  $\frac{\sqrt{d}}{3} = 4$

14.  $\sqrt{\frac{m}{9}} = 3$

15.  $x = \sqrt{x + 2}$

16.  $d = \sqrt{12 - d}$

17.  $\sqrt{6x - 9} = x$

18.  $\sqrt{6p - 8} = p$

19.  $\sqrt{x + 5} = x - 1$

20.  $\sqrt{8 - d} = d - 8$

21.  $\sqrt{r - 3} + 5 = r$

22.  $\sqrt{y - 1} + 3 = y$

23.  $\sqrt{5n + 4} = n + 2$

24.  $\sqrt{3z - 6} = z - 2$