

Square Root Equations

Date _____ Period _____

Solve each equation. Remember to check for extraneous solutions.

1) $3 = \sqrt{b-1}$

2) $2 = \sqrt{\frac{x}{2}}$

3) $\sqrt{-8-2a} = 0$

4) $\sqrt{x+4} = 0$

5) $5 = \sqrt{r-3}$

6) $\sqrt{2m-6} = \sqrt{3m-14}$

7) $\sqrt{8k} = k$

8) $\sqrt{9-b} = \sqrt{1-9b}$

9) $\sqrt{3-2x} = \sqrt{1-3x}$

10) $\sqrt{3k-11} = \sqrt{5-k}$

$$9) 3125 = (-1 - 18p)^{\frac{5}{3}}$$

$$10) 5 = 3 + 4a^{-\frac{1}{6}}$$

$$11) 4b^{-\frac{3}{4}} + 10 = \frac{21}{2}$$

$$12) -x^{\frac{3}{2}} = -27$$

$$13) -54 = 10 - (m - 10)^{\frac{3}{2}}$$

$$14) -5126 = -6 - 5(3x + 22)^{\frac{5}{3}}$$

$$15) 9 + 5\sqrt[3]{2m} = 29$$

$$16) 3646 = 1 + 5(4r + 17)^{\frac{3}{2}}$$

$$17) -646 = -3(65 - n)^{\frac{3}{2}} + 2$$

$$18) -3 + (8 - 2x)^{\frac{5}{4}} = 29$$

$$13) \frac{2x^{-\frac{7}{4}}}{4x^{\frac{4}{3}}}$$

$$14) \frac{4x^2}{2x^{\frac{1}{2}}}$$

$$15) \frac{3x^{-\frac{1}{2}} \cdot 3x^{\frac{1}{2}} y^{-\frac{1}{3}}}{3y^{-\frac{7}{4}}}$$

$$16) \frac{3y^{\frac{1}{4}}}{4x^{-\frac{2}{3}} y^{\frac{3}{2}} \cdot 3y^{\frac{1}{2}}}$$

$$17) \left(m \cdot m^{-2} n^{\frac{5}{3}} \right)^2$$

$$18) \left(a^{-1} b^{\frac{1}{3}} \cdot a^{-\frac{4}{3}} b^2 \right)^2$$

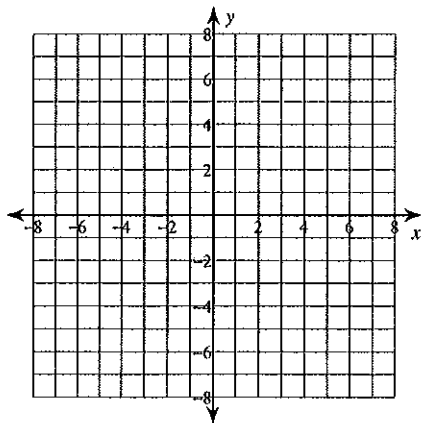
$$19) \left(\frac{x^{\frac{1}{2}} y^{-2}}{y x^{-\frac{7}{4}}} \right)^4$$

$$20) \frac{(x^3 y^2)^{\frac{3}{2}}}{\left(x^{-1} y^{-\frac{2}{3}} \right)^{\frac{1}{4}}}$$

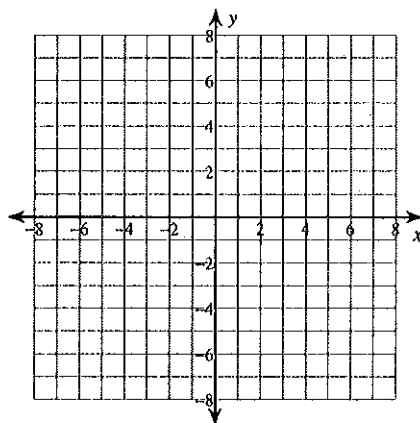
$$21) \frac{\left(x^{-\frac{1}{2}} y^2 \right)^{-\frac{5}{4}}}{x^2 y^{\frac{1}{2}}}$$

$$22) \frac{\left(x^{-\frac{1}{2}} y^4 \right)^{\frac{1}{4}}}{x^{\frac{2}{3}} y^{\frac{3}{2}} \cdot x^{-\frac{3}{2}} y^{\frac{1}{2}}}$$

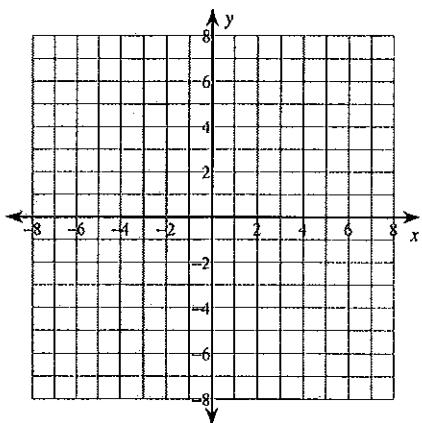
9) $y = -2\sqrt{x+2}$



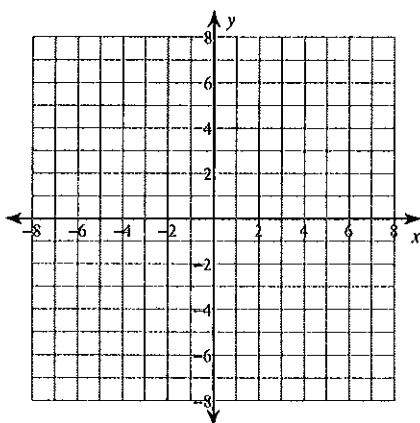
10) $y = \frac{1}{2}\sqrt[3]{x+1} + 4$



11) $y = \sqrt{x-4} - 2$

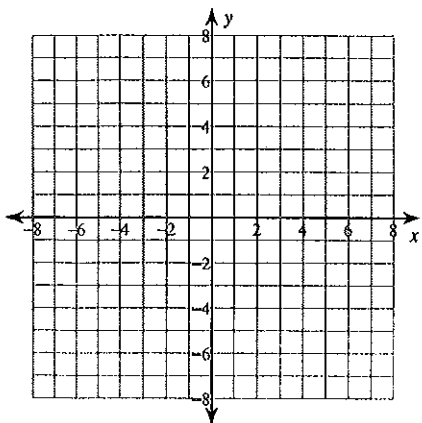


12) $y = -2 + \sqrt[3]{x}$



Identify the domain and range of each. Then sketch the graph.

13) $y = 4\sqrt{x-2} - 1$



14) $y = -\frac{3}{4}\sqrt{x-1} + 4$

