

MATH 60/GRACEY  
WORKSHEET/9.7-9.8

Name \_\_\_\_\_

Evaluate the radical function at the indicated value.

1)  $f(x) = \sqrt{2x - 1}$   
 $f(41)$

2)  $f(x) = \sqrt[3]{x + 1}$   
 $f(26)$

3)  $f(x) = \sqrt{\frac{x - 3}{x + 3}}$   
 $f(13)$

Find the domain of the given function.

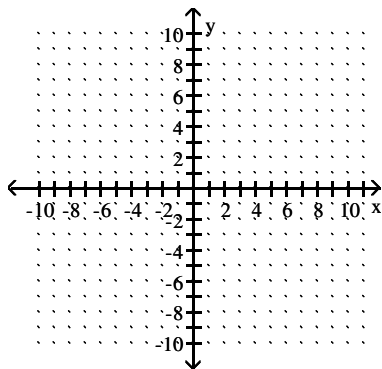
4)  $f(x) = \sqrt{20x - 5}$

$$5) f(x) = \sqrt{\frac{2}{x+5}}$$

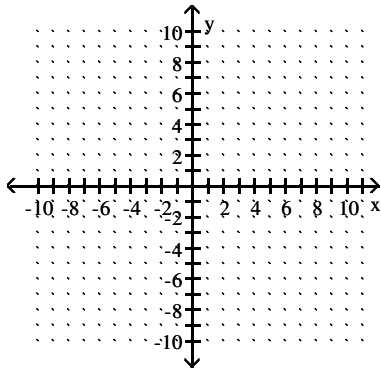
$$6) f(x) = \sqrt[5]{22y - 55}$$

**Determine the domain and range of the function. Then graph it.**

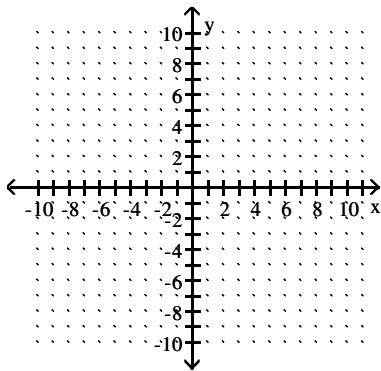
$$7) f(x) = \sqrt{x-2}$$



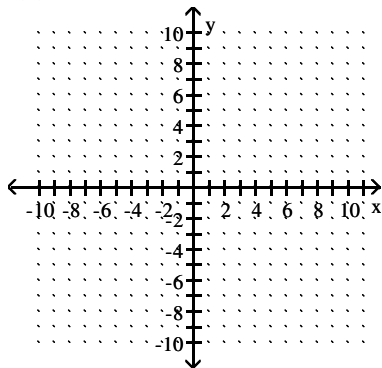
8)  $f(x) = -\sqrt{x-2}$



9)  $f(x) = \sqrt[3]{x+3}$



10)  $f(x) = \sqrt[3]{x} + 5$



**Solve the equation.**

11)  $\sqrt{3x} = 2$

12)  $\sqrt{x+1} = 3$

13)  $\sqrt{x+5} = -5$

$$14) 2\sqrt{y} = y$$

$$15) \sqrt{x+2} - 8 = 0$$

$$16) \sqrt{x-5} + 2 = 4$$

$$17) (x+9)^{1/4} = (4x)^{1/4}$$

$$18) (4x+4)^{1/2} = 3$$

$$19) (4x + 5)^{1/3} = -5$$

$$20) (2x + 3)^{1/2} - (x + 1)^{1/2} = 1$$

$$21) \sqrt{2x + 11} = x + 7$$

$$22) \sqrt{4x + 1} + 8 = 15$$

# Answer Key

Testname: M60\_9.7-9.8

1) 9

2) 3

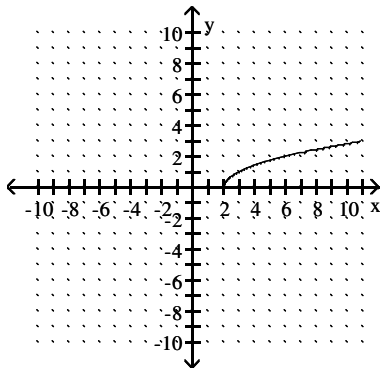
3)  $\frac{\sqrt{10}}{4}$

4)  $[\frac{1}{4}, \infty)$

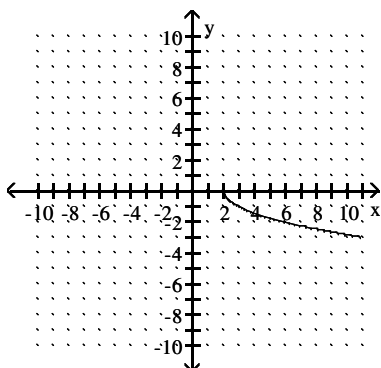
5)  $(-5, \infty)$

6)  $(-\infty, \infty)$

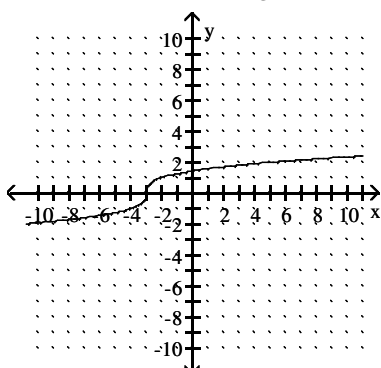
7) domain =  $[2, \infty)$ , range =  $[0, \infty)$



8) domain =  $[2, \infty)$ , range =  $(-\infty, 0]$



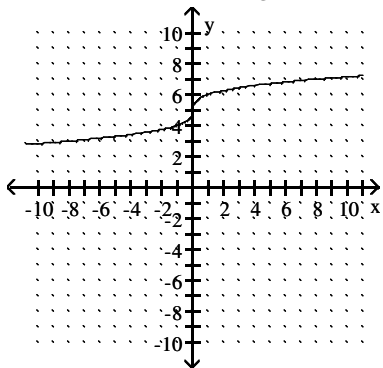
9) domain =  $(-\infty, \infty)$ , range =  $(-\infty, \infty)$



# Answer Key

Testname: M60\_9.7-9.8

10) domain =  $(-\infty, \infty)$ , range =  $(-\infty, \infty)$



11)  $\left\{\frac{4}{3}\right\}$

12)  $\{8\}$

13)  $\emptyset$

14)  $\{0, 4\}$

15)  $\{62\}$

16)  $\{9\}$

17)  $\{3\}$

18)  $\left\{\frac{5}{4}\right\}$

19)  $\left\{-\frac{65}{2}\right\}$

20)  $\{3, -1\}$

21)  $\{8\}$

22)  $\{12\}$