

Name \_\_\_\_\_

Date \_\_\_\_\_

**Additional Exercises 8.1**  
**Form I**  
Finding Roots

Evaluate each expression, or state that the expression is not a real number.

1.  $\sqrt{49}$  1. \_\_\_\_\_

2.  $-\sqrt{49}$  2. \_\_\_\_\_

3.  $\sqrt{-49}$  3. \_\_\_\_\_

4.  $\sqrt{121}$  4. \_\_\_\_\_

5.  $\sqrt{\frac{1}{16}}$  5. \_\_\_\_\_

6.  $-\sqrt{\frac{1}{25}}$  6. \_\_\_\_\_

7.  $\sqrt{0.25}$  7. \_\_\_\_\_

8.  $\sqrt{14+11}$  8. \_\_\_\_\_

9.  $\sqrt{36} + \sqrt{25}$  9. \_\_\_\_\_

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10.  $\sqrt{36-20}$

10. \_\_\_\_\_

Find the indicated root, or state that the expression is not a real number.

11.  $\sqrt[3]{8}$

11. \_\_\_\_\_

12.  $\sqrt[3]{-8}$

12. \_\_\_\_\_

13.  $\sqrt[3]{64}$

13. \_\_\_\_\_

14.  $\sqrt[4]{1}$

14. \_\_\_\_\_

15.  $\sqrt[4]{256}$

15. \_\_\_\_\_

16.  $\sqrt[4]{-256}$

16. \_\_\_\_\_

Use a calculator to approximate each square root. Round to three decimal places.

17.  $\sqrt{10}$

17. \_\_\_\_\_

18.  $\sqrt{21}$

18. \_\_\_\_\_

19.  $5 + \sqrt{6}$

19. \_\_\_\_\_

20.  $\sqrt{14-9}$

20. \_\_\_\_\_

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**Additional Exercises 8.1**  
**Form II**  
Finding Roots

Evaluate each expression, or state that the expression is not a real number.

1.  $\sqrt{25}$  1. \_\_\_\_\_

2.  $\sqrt{-81}$  2. \_\_\_\_\_

3.  $-\sqrt{121}$  3. \_\_\_\_\_

4.  $\sqrt{\frac{1}{4}}$  4. \_\_\_\_\_

5.  $\sqrt{\frac{4}{9}}$  5. \_\_\_\_\_

6.  $\sqrt{0.81}$  6. \_\_\_\_\_

7.  $\sqrt{16+20}$  7. \_\_\_\_\_

8.  $\sqrt{10-35}$  8. \_\_\_\_\_

Find the indicated root, or state that the expression is not a real number.

9.  $\sqrt[3]{1}$  9. \_\_\_\_\_

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10.  $\sqrt[3]{-27}$

10. \_\_\_\_\_

11.  $\sqrt[5]{-32}$

11. \_\_\_\_\_

12.  $-\sqrt[6]{64}$

12. \_\_\_\_\_

13.  $\sqrt[4]{625}$

13. \_\_\_\_\_

14.  $\sqrt[3]{125}$

14. \_\_\_\_\_

15.  $\sqrt[3]{-1000}$

15. \_\_\_\_\_

Use a calculator to approximate each square root. Round to three decimal places.

16.  $\sqrt{26}$

16. \_\_\_\_\_

17.  $\sqrt{41}$

17. \_\_\_\_\_

18.  $\sqrt{25-6}$

18. \_\_\_\_\_

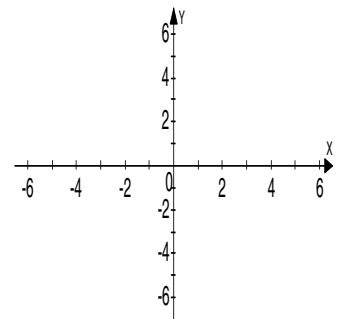
19.  $\sqrt{25} - \sqrt{6}$

19. \_\_\_\_\_

Graph the equation by first making a table and finding five solutions of the equation. Then plot the ordered pairs as points in the rectangular coordinate system. Connect the points with a smooth curve.

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

20.



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**Additional Exercises 8.1**  
**Form III**  
Finding Roots

Evaluate each expression, or state that the expression is not a real number.

1.  $\sqrt{-100}$  1. \_\_\_\_\_

2.  $-\sqrt{64}$  2. \_\_\_\_\_

3.  $\sqrt[3]{-64}$  3. \_\_\_\_\_

4.  $\sqrt{-25}$  4. \_\_\_\_\_

5.  $\sqrt{100-64}$  5. \_\_\_\_\_

6.  $\sqrt{100}-\sqrt{64}$  6. \_\_\_\_\_

7.  $\sqrt[4]{1296}$  7. \_\_\_\_\_

8.  $\sqrt[3]{-125}$  8. \_\_\_\_\_

9.  $\sqrt[6]{1}$  9. \_\_\_\_\_

10.  $\sqrt[8]{-1}$  10. \_\_\_\_\_

11.  $\sqrt[5]{-32}$  11. \_\_\_\_\_

12.  $-\sqrt[4]{625}$  12. \_\_\_\_\_

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13.  $\sqrt[3]{\frac{1}{27}}$

13. \_\_\_\_\_

14.  $\sqrt[4]{\frac{16}{81}}$

14. \_\_\_\_\_

Use a calculator to approximate each square root. Round to three decimal places.

15.  $\sqrt{51}$

15. \_\_\_\_\_

16.  $\sqrt{123}$

16. \_\_\_\_\_

17.  $\sqrt{100-58}$

17. \_\_\_\_\_

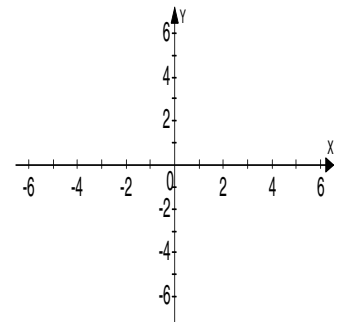
18.  $\sqrt{100}-\sqrt{58}$

18. \_\_\_\_\_

Graph the equation by first making a table and finding five solutions of the equation. Then plot the ordered pairs as points in the rectangular coordinate system. Connect the points with a smooth curve.

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

19.



20.  $y = \sqrt{x+5}$

20.

