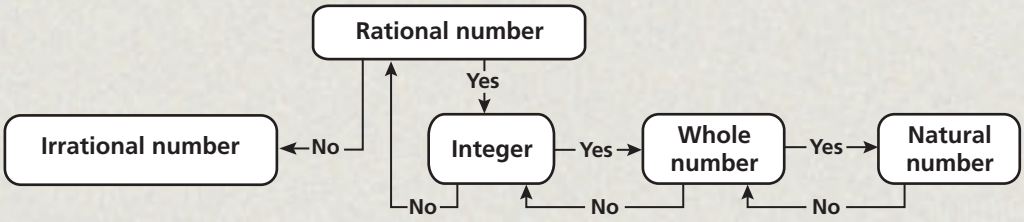
THINK AND DISCUSS

1. Write $\frac{2}{3}$ and $\frac{3}{5}$ as decimals. Identify what number classifications the two numbers share and how their classifications are different.

2. GET ORGANIZED Copy the graphic organizer and use the flowchart to classify each of the given numbers. Write each number in the box with the most specific classification that applies. $4, \sqrt{25}, 0, \frac{1}{3}, -15, -2.25, \frac{1}{4}, \sqrt{21}, 2^4, (-1)^2$



1-5 Exercises

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Homework Help Online
KEYWORD: MA7 1-5
Parent Resources Online
KEYWORD: MA7 Parent

GUIDED PRACTICE

1. Vocabulary Give an example of an *integer* that is not a *whole number*.

SEE EXAMPLE 1 p. 32

Find each square root.

2. $\sqrt{64}$ **3.** $\sqrt{225}$ **4.** $-\sqrt{1}$ **5.** $\sqrt{169}$

SEE EXAMPLE 2 p. 33

6. A contractor is told that a potential client's kitchen floor is in the shape of a square. The area of the floor is 45 ft^2. Find the side length of the floor to the nearest tenth.

SEE EXAMPLE 3 p. 34

Write all classifications that apply to each real number.

7. -27 **8.** $\frac{1}{6}$ **9.** $\sqrt{12}$ **10.** -6.8

PRACTICE AND PROBLEM SOLVING

Independent Practice

For Exercises	See Example
11–14	1
15	2
16–19	3

Extra Practice

Skills Practice p. S4
Application Practice p. S28

Find each square root.

11. $\sqrt{121}$ **12.** $\sqrt{9}$ **13.** $-\sqrt{100}$ **14.** $\sqrt{400}$

15. Mr. and Mrs. Phillips are going to build a new home with a foundation that is in the shape of a square. The house will cover 222 square yards. Find the length of the side of the house to the nearest tenth of a yard.

Write all classifications that apply to each real number.

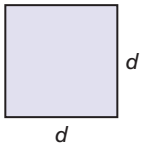
16. $\frac{5}{12}$ **17.** $\sqrt{49}$ **18.** -3 **19.** $\sqrt{18}$

Compare. Write $<$, $>$, or $=$.

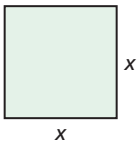
20. $\sqrt{88} \square 9$ **21.** $8 \square \sqrt{63}$ **22.** $6 \square \sqrt{40}$ **23.** $\sqrt{169} \square 13$

Geometry Give the side length of each square. Round your answer to the nearest whole number, if necessary.

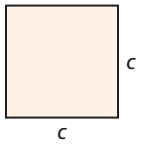
24. Area = 81 cm^2



25. Area = 34 in^2



26. Area = 169 m^2



Travel During a cross-country road trip, Madeline recorded the distance between several major cities and the time it took to travel between those cities. Find Madeline's average speed for each leg of the trip and classify that number.

Madeline's Cross-Country Road Trip

		Distance (mi)	Time (h)	Speed (mi/h)	Classification
27.	**Portland, ME, to Memphis, TN**	1485	33		
28.	**Memphis, TN, to Denver, CO**	1046	27		
29.	**Denver, CO, to Boise, ID**	831	24		
30.	**Boise, ID, to Portland, OR**	424	9		

Determine whether each statement is sometimes, always, or never true.

31. Natural numbers are whole numbers.

32. Negative numbers are integers.

33. Mixed numbers are rational numbers.

34. A positive number has two square roots.

Tell whether whole numbers, integers, or rational numbers are the most reasonable to describe each. Explain your answer.

35. number of pets

36. body temperature

37. recipe measurements

38. money owed

39. distances

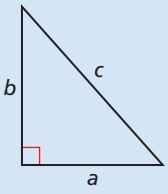
40. home runs

41. **Critical Thinking** Tell how you would classify the square roots of all positive integers that are not perfect squares.

42. **Write About It** Tell whether the square root of an integer is sometimes, always, or never an integer. Explain.

43. This problem will prepare you for the Multi-Step Test Prep on page 38.

The equation $a^2 + b^2 = c^2$ relates the lengths of the sides of a right triangle. Sides a and b make the right angle of the triangle.



a. What is the value of c^2 when $a = 5$ and $b = 12$? Determine the square root of c^2 to find the value of c.

b. A diver is a horizontal distance of 50 feet from a boat and 120 feet beneath the surface of the water. What distance will the diver swim if he swims diagonally to the boat?