

**7.4 Practice A**

Tell whether the rational number is a reasonable approximation of the square root.

1.  $\frac{277}{160}, \sqrt{3}$

2.  $\frac{590}{160}, \sqrt{17}$

Classify the real number.

3.  $-\sqrt{14}$

4.  $1.\bar{3}$

5. 2.375

6.  $\sqrt{100}$

7. You are finding the area of a circle with a radius of 2 feet. Is the area a *rational* or *irrational* number? Explain.

Estimate the square root to the nearest (a) integer and (b) tenth.

8.  $\sqrt{33}$

9.  $\sqrt{630}$

10.  $-\sqrt{8}$

11.  $\sqrt{\frac{7}{2}}$

12. A swimming pool is in the shape of a right triangle. One leg has a length of 10 feet and one leg has a length of 15 feet. Estimate the length of the hypotenuse to the nearest integer.

Which number is greater? Explain.

13.  $\sqrt{70}, 8$

14.  $-\sqrt{16}, 3$

15.  $\sqrt{210}, 16\frac{1}{4}$

16.  $\sqrt{\frac{4}{25}}, \frac{3}{10}$

17. Find a number  $a$  such that  $2 < \sqrt{a} < 3$ .

18. Is  $\sqrt{\frac{1}{9}}$  a rational number? Explain.

19. Is  $\sqrt{\frac{5}{9}}$  a rational number? Explain.

20. Is  $\sqrt{\frac{2}{18}}$  a rational number? Explain.

## 7.4 Practice B

Tell whether the rational number is a reasonable approximation of the square root.

1.  $\frac{2999}{490}, \sqrt{41}$

2.  $\frac{2298}{490}, \sqrt{22}$

Classify the real number.

3.  $2\frac{2}{9}$

4.  $-\sqrt{576}$

5.  $2.\overline{41}$

6.  $\sqrt{130}$

7. You are finding the circumference of a circle with a diameter of 10 meters. Is the circumference a *rational* or *irrational* number? Explain.

Estimate the square root to the nearest (a) integer and (b) tenth.

8.  $-\sqrt{\frac{250}{9}}$

9.  $\sqrt{395}$

10.  $\sqrt{0.79}$

11.  $\sqrt{1.48}$

12. A patio is in the shape of a square, with a side length of 35 feet. You wish to draw a black line down one diagonal.

- Use the Pythagorean Theorem to find the length of the diagonal. Write your answer as a square root.
- Find the two perfect squares that the length of the diagonal falls between.
- Estimate the length of the diagonal to the nearest tenth.

Which number is greater? Explain.

13.  $\sqrt{220}, 14\frac{3}{4}$

14.  $-\sqrt{135}, -\sqrt{145}$

15.  $\sqrt{\frac{7}{64}}, \frac{3}{8}$

16.  $-0.25, -\sqrt{\frac{1}{4}}$

17. Find two numbers  $a$  and  $b$  such that  $7 < \sqrt{a} < \sqrt{b} < 8$ .