Lesson 1-3: Compare and Order Real Numbers

1. Sample answer: You can use perfect squares or rounding to approximate irrational numbers as rational numbers. Then you can compare.

2. 5 meters; Sample answer: 30 lies between perfect squares 25 and 36. Since 30 is closer to 25, $\sqrt{30}$ is closer to $\sqrt{25}$, or 5.

3. 4.47; Sample answer: The more decimal places in the answer, the more precise the approximation.

4. 6

5. 4.2

6. $\sqrt{29}$ < 5.7145…

7. $-5.\overline{6} < 3\frac{9}{10} < \sqrt{21} < 5.2$

8. a. 9; 16
   $\sqrt{9}$; $\sqrt{16}$
   3; 4
   b. 14.44
   15.21

9. $-\sqrt{5}$ < -1.96312…

10. -3; Sample answer: It is the negative number with the greatest absolute value.

11. Sample answer: At least 10 feet of vertical space is needed.

12. $\sqrt{3}$ inches, $2\frac{1}{3}$ inches, 2.5 inches, $\sqrt{8}$ inches

13. a. $\sqrt{7}$ < 3.444444….
    b. Sample answer: Rose found 7 divided by 2, not $\sqrt{7}$

14. - 4.8

15. a. $\sqrt{45}$
    b. 13.4 units long; 6.7 units wide

16. B

17. a. 6 inches; Sample answer: 25 < 31 < 36, 5 < $\sqrt{31}$ < 6. Since 31 is closer to 36, $\sqrt{31}$ is closer to 6.

    b. 5.6 inches; Sample answer:
    5.5 x 5.5 = 30.25
    5.6 x 5.6 = 31.36
    Since 31 is closer to 31.36 than 30.25, 5.6 is a better approximation.