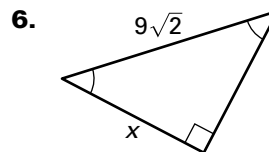
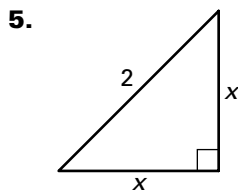
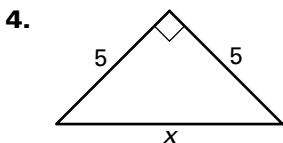
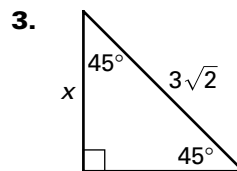
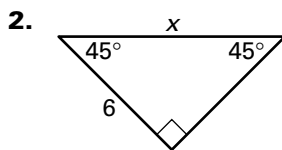
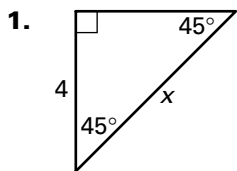
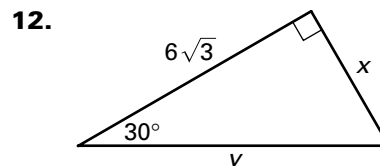
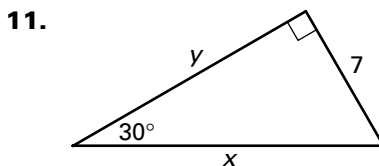
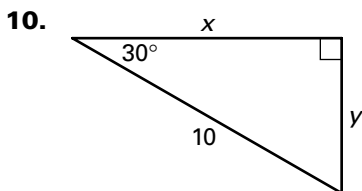
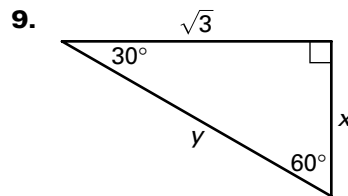
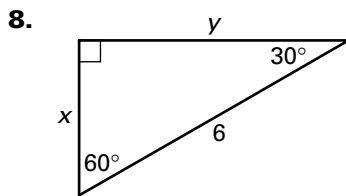
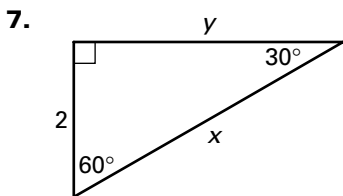


LESSON 7.4 **Practice A**
For use with pages 475–482

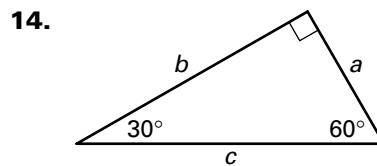
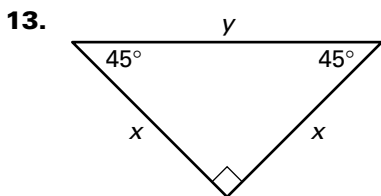
Find the value of x . Write your answer in simplest radical form.



Find the value of each variable. Write your answers in simplest radical form.



Copy and complete the table.

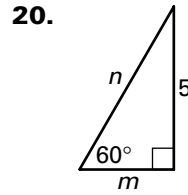
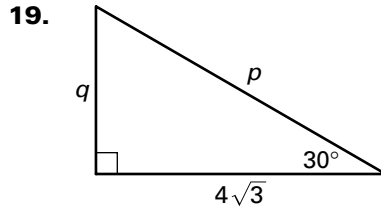
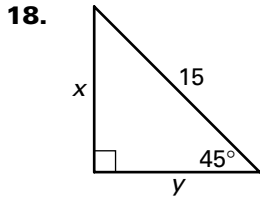
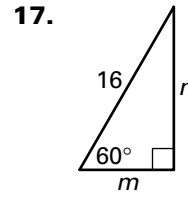
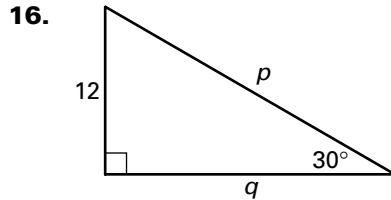
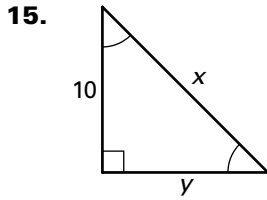


x	2		4		7
y		$\sqrt{2}$		$3\sqrt{2}$	

a	5			6	
b		$2\sqrt{3}$			
c			8		22

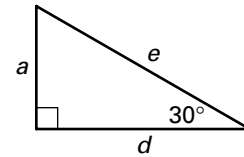
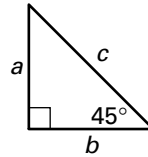
LESSON 7.4 Practice A *continued*
For use with pages 475–482

Find the value of each variable. Write your answers in simplest radical form.

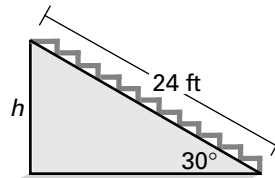


21. Multiple Choice In the diagrams to the right, which side length is the longest?

- A.** a **B.** b
C. c **D.** d

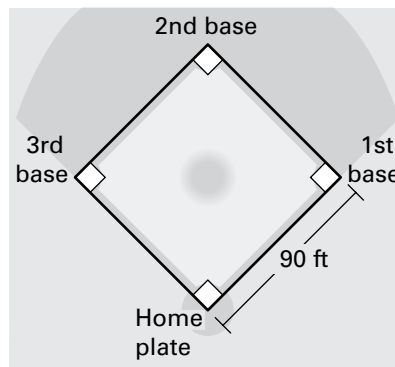


22. Bleachers A 24 foot long bleacher stand has a base angle of 30° . How high above the ground is the last row of seating?



23. Baseball The baselines of a baseball field form a square. The distance from home plate to first base is 90 feet. Use the diagram at the right. Round decimal answers to the nearest inch.

- What is the distance from home plate to second base?
- What is the distance from third base to first base?
- The pitcher's mound is 60 feet 6 inches from home plate. Is it the midpoint of the diagonal from home plate to second base? If not, what is the midpoint?



Lesson 7.3, continued

13. $\frac{c}{b} = \frac{b}{y}$, solving for y you get $y = \frac{b^2}{c}$.

$\frac{c}{a} = \frac{a}{x}$, solving for x you get $x = \frac{a^2}{c}$.

$x + y = \frac{a^2}{c} + \frac{b^2}{c} = c$

Solving for c , $c^2 = a^2 + b^2$.

Lesson 7.4

Practice Level A

1. $4\sqrt{2}$ 2. $6\sqrt{2}$ 3. 3 4. $5\sqrt{2}$ 5. $\sqrt{2}$ 6. 9

7. $x = 4, y = 2\sqrt{3}$ 8. $x = 3, y = 3\sqrt{3}$

9. $x = 1, y = 2$ 10. $x = 5\sqrt{3}, y = 5$

11. $x = 14, y = 7\sqrt{3}$ 12. $x = 6, y = 12$

13.

x	2	1	4	3	7
y	$2\sqrt{2}$	$\sqrt{2}$	$4\sqrt{2}$	$3\sqrt{2}$	$7\sqrt{2}$

14.

a	5	2	4	6	11
b	$5\sqrt{3}$	$2\sqrt{3}$	$4\sqrt{3}$	$6\sqrt{3}$	$11\sqrt{3}$
c	10	4	8	12	22

15. $x = 10\sqrt{2}, y = 10$ 16. $p = 24, q = 12\sqrt{3}$

17. $m = 8, n = 8\sqrt{3}$ 18. $x = \frac{15\sqrt{2}}{2}, y = \frac{15\sqrt{2}}{2}$

19. $p = 8, q = 4$ 20. $m = \frac{5\sqrt{3}}{3}, n = \frac{10\sqrt{3}}{3}$

21. D 22. 12 ft 23. a. 127 ft 3 in.

b. 127 ft 3 in. c. No; The midpoint is at 63 ft 8 in.

Practice Level B

1. $6\sqrt{2}$ 2. 18 3. 9 4. $12\sqrt{2}$ 5. $4\sqrt{2}$ 6. 5

7. $x = 10\sqrt{3}, y = 15$ 8. $x = 4, y = 4\sqrt{3}$

9. $x = 6\sqrt{3}, y = 12\sqrt{3}$ 10. $x = 8\sqrt{3}, y = 8$

11. $x = 22, y = 11\sqrt{3}$ 12. $x = 13, y = 26$

13.

x	5	4	$\sqrt{2}$	9	$12\sqrt{2}$
y	$5\sqrt{2}$	$4\sqrt{2}$	2	$9\sqrt{2}$	24

14.

a	9	$3\sqrt{3}$	5	11	8
b	$9\sqrt{3}$	9	$5\sqrt{3}$	$11\sqrt{3}$	$8\sqrt{3}$
c	18	$6\sqrt{3}$	10	22	16

15. $r = 10\sqrt{2}, s = 10$ 16. $n = 30, p = 15, q = 15\sqrt{3}$ 17. $x = 45, y = 12\sqrt{2}$

18. $a = 4\sqrt{3}, b = 2\sqrt{3}$ 19. $c = 12\sqrt{2}, d = 24$

20. $f = 8\sqrt{3}, g = 8, h = 8\sqrt{2}$ 21. $30^\circ-60^\circ-90^\circ$

22. neither 23. $45^\circ-45^\circ-90^\circ$

24. a. $x = y = 12\sqrt{2}$ ft b. 1188 ft²

25. a. $a \approx 97$ cm, $b = d = 112$ cm, $c \approx 158$ cm b. $a = 56$ cm, $b = d \approx 79$ cm, $c = 112$ cm

Practice Level C

1. $x = 8\sqrt{3}, y = 12$ 2. $x = 7, y = 7$

3. $x = \frac{15}{2}, y = \frac{5\sqrt{3}}{2}$ 4. $x = \frac{15}{2}, y = \frac{15\sqrt{3}}{2}$

5. $x = 5\sqrt{3}, y = 10$ 6. $x = 14, y = 14\sqrt{2}$

7. $x = 24\sqrt{3}, y = 36$ 8. $x = 9\sqrt{2}, y = 9$

9. $x = \frac{16\sqrt{3}}{3}, y = \frac{32\sqrt{3}}{3}$ 10. $x = 12, y = 8\sqrt{3}$

11. $x = 9\sqrt{2}, y = 9$ 12. $x = \frac{7\sqrt{3}}{3}, y = \frac{14\sqrt{3}}{3}$

13. B 14. 41.6 cm 15. 72 in.² 16. 12.6 ft

17. 13.0 m 18. 6.5 mi 19. 5600.3 ft

20. 5600.3 ft 21. more 22. 52.0 ft 23. 39.0 ft

24. 77.9 ft

Review for Mastery

1. 9 2. 30 3. $25\sqrt{2}$ 4. $12\sqrt{3}$ 5. 26 6. 21

7. 10 8. 62

Problem Solving Workshop: Mixed Problem Solving

1. a. 180 ft b. 15 c. \$270



b. no; obtuse 3. about 10.4 mi; Find the distance each person traveled in 1 hour 45 minutes. Since Peter walks north and Denise walks east, their distances are the two legs of a right triangle. Use the Pythagorean Theorem to find the distance between them. 4. 29 paces

5. a. Yes; The diagonal of the room is about 9.8 feet, so the lumber can fit diagonally in the trailer. b. No; The diagonal of the trailer is about 17.5 feet. Since this is the longest distance in the room, a 20 foot pipe cannot fit in the room.