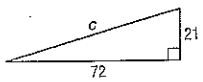
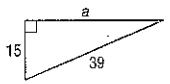
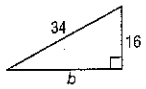
10-5 Skills Practice

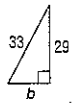
The Pythagorean Theorem

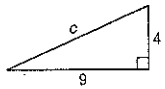
Find each missing length. If necessary, round to the nearest hundredth.

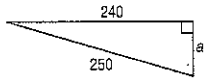
1. 

2. 

3. 

4. 

5. 

6. 

Determine whether each set of measures can be sides of a right triangle. Then determine whether they form a Pythagorean triple.

7. 7, 24, 25

8. 15, 30, 34

9. 16, 28, 32

10. 18, 24, 30

11. 15, 36, 39

12. 5, 7, $\sqrt{74}$

13. 4, 5, 6

14. 10, 11, $\sqrt{221}$

NAME _____ DATE _____

10-6 Skills Practice

The Distance and Midpoint Formulas

Find the distance between the points with the given coordinates.

1. (9, 7), (1, 1)

2. (5, 2), (8, −2)

3. (1, −3), (1, 4)

4. (7, 2), (−5, 7)

5. (−6, 3), (10, 3)

6. (3, 3), (−2, 3)

7. (−1, −4), (−6, 0)

8. (−2, 4), (5, 8)

Find the possible values of a if the points with the given coordinates are the indicated distance apart.

9. (−2, −5), (a, 7); $d = 13$

10. (8, −2), (5, a); $d = 3$

11. (4, a), (1, 6); $d = 5$

12. (a, 3), (5, −1); $d = 5$

13. (1, 1), (a, 1); $d = 4$

14. (2, a), (2, 3); $d = 10$

15. (a, 2), (−3, 3); $d = \sqrt{2}$

16. (−5, 3), (−3, a); $d = \sqrt{5}$

Find the coordinates of the midpoint of the segment with the given endpoints.

17. (−3, 4), (−2, 8)

18. (5, −6), (7, −9)

19. (4, 2), (8, 6)

20. (5, 2), (3, 10)

21. (12, −1), (4, −11)

22. (−3, −1), (−11, 3)

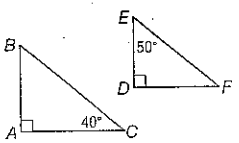
23. (9, 3), (6, −6)

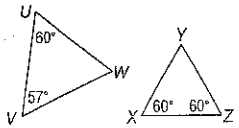
24. (0, −4), (8, 4)

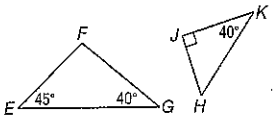
10-7 Skills Practice

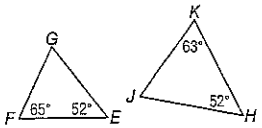
Similar Triangles

Determine whether each pair of triangles is similar. Justify your answer.

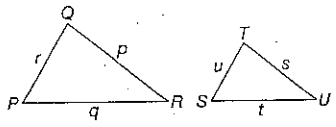
1. 

2. 

3. 

4. 

Find the missing measures for the pair of similar triangles if $\triangle PQR \sim \triangle STU$.



5. $r = 4, s = 6, t = 3, u = 2$

6. $t = 8, p = 21, q = 14, r = 7$

7. $p = 15, q = 10, r = 5, s = 6$

8. $p = 48, s = 16, t = 8, u = 4$

9. $q = 6, s = 2, t = \frac{3}{2}, u = \frac{1}{2}$

10. $p = 3, q = 2, r = 1, u = \frac{1}{3}$

11. $p = 14, q = 7, u = 2.5, t = 5$

12. $r = 6, s = 3, t = \frac{21}{8}, u = \frac{9}{4}$

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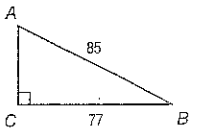
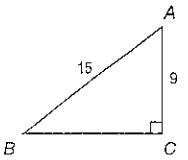
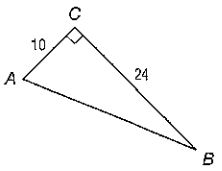
10-8 Skills Practice

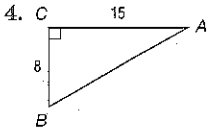
Trigonometric Ratios

Find the values of the three trigonometric ratios for angle A.

1. 

2. 

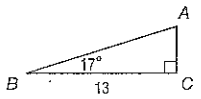
3. 

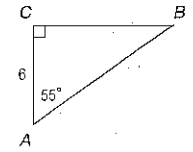
4. 

Use a calculator to find the value of each trigonometric ratio to the nearest ten-thousandth.

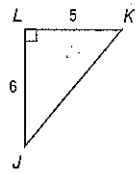
5. sin 18°
6. cos 68°
7. tan 27°
8. cos 60°
9. tan 75°
10. sin 9°

Solve each right triangle. Round each side length to the nearest tenth.

11. 

12. 

Find $m\angle J$ for each right triangle to the nearest degree.

13. 

14.