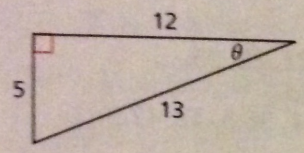
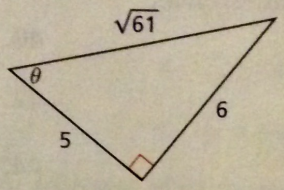
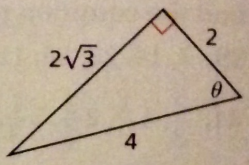
Name_____ **CHAPTER 10 TRIGONOMETRIC FUNCTIONS**

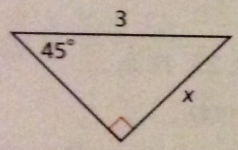
Find the value of the sine, cosine, and tangent functions for θ.

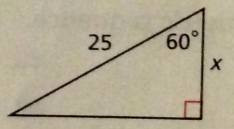
1. 

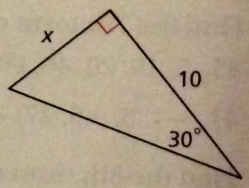
2. 

3. 

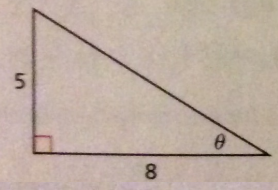
Use a trigonometric function to find the value of x.

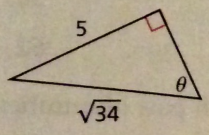
4. 

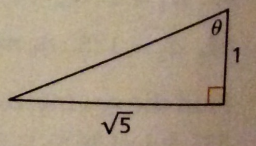
5. 

6. 

Find the values of the six trigonometric functions for θ.

7. 

8. 

9. 

Draw an angle with the given measure in standard position.

10. $-30°$ 11. $240°$ 12. $410°$ 13. $-350°$

Find the measures of a positive angle and a negative angle that are coterminal with each given angle.

14. $\theta = 20°$ 15. $\theta = 400°$ 16. $\theta = -125°$ 17. $\theta = -385°$

Find the measure of the reference angle for each given angle.

18. $\theta = -120°$ 19. $\theta = 175°$ 20. $\theta = 110°$ 21. $\theta = 385°$

P is a point on the terminal side of θ in standard position. Find the exact value of the six trigonometric functions for θ.

22. $P(2, 3)$ 23. $P(-1, 4)$ 24. $P(-1, -1)$ 25. $P(2, -8)$

Convert each measure from degrees to radians or from radians to degrees.

26. $60°$ 27. $-135°$ 28. $90°$ 29. $-10°$

30. $-\frac{3\pi}{2}$ 31. $\frac{\pi}{10}$ 32. $\frac{\pi}{18}$ 33. $-\frac{3\pi}{8}$

Use the unit circle to find the exact value of each trigonometric function.

34. $\cos 150°$ 35. $\tan \frac{7\pi}{4}$ 36. $\sin \frac{7\pi}{6}$ 37. $\cos 315°$

38. $\sin \frac{2\pi}{3}$ 39. $\cos 270°$ 40. $\csc \frac{4\pi}{3}$ 41. $\cot 225°$

Use a reference angle to find the exact value of the sine, cosine, and tangent of each angle.

42. $-150°$ 43. $210°$ 44. $315°$ 45. $330°$

46. $\frac{\pi}{4}$ 47. $-\frac{7\pi}{6}$ 48. $\frac{5\pi}{4}$ 49. $\frac{5\pi}{3}$

Find all possible values of each expression.

50. $\tan^{-1}\left(-\sqrt{3}\right)$ 51. $\cos^{-1}\frac{1}{2}$ 52. $\sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)$

Evaluate each inverse trigonometric function. Give your answer in both radians and degrees.

53. $\mathrm{Tan}^{-1}(-1)$ 54. $\mathrm{Sin}^{-1}\frac{1}{2}$ 55. $\mathrm{Cos}^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

Solve each equation to the nearest tenth. Use the given restrictions.

56. $\sin\theta = 0.8$, for $-90° \le \theta \le 90°$

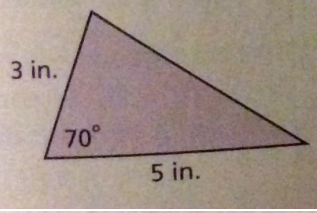
57. $\sin\theta = 0.8$, for $90° < \theta < 180°$

58. $\tan\theta = 2.1$, for $-90° < \theta < 90°$

59. $\tan\theta = 2.1$, for $180° < \theta < 270°$

Find the area of each triangle. Round to the nearest tenth.

60.



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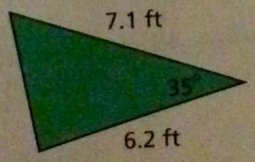

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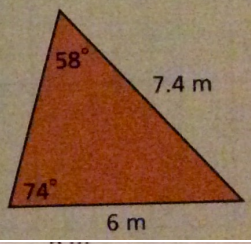
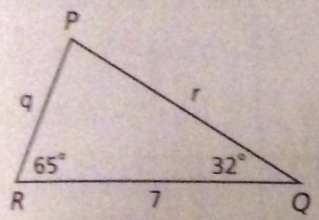


Solve each triangle. Round to the nearest tenth.

63.



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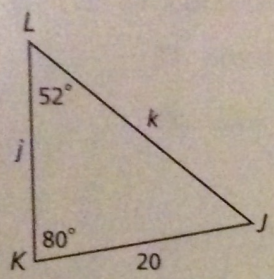

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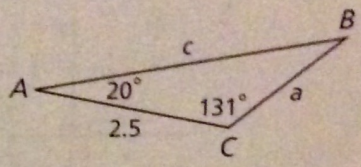

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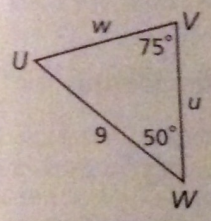

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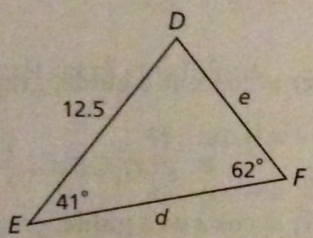

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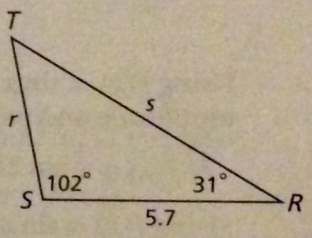
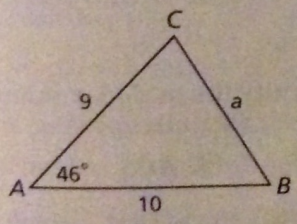


Use the given measurements to solve each triangle. Round to the nearest tenth.

69.



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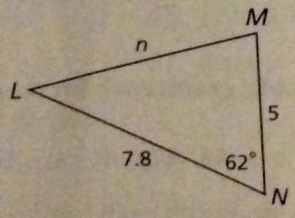

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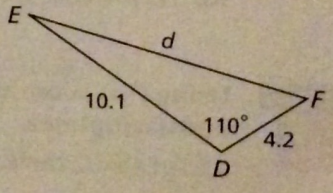

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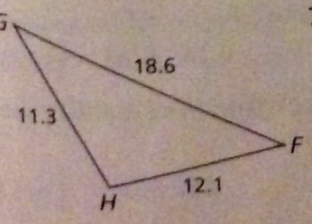

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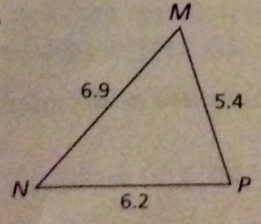

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