Geometry

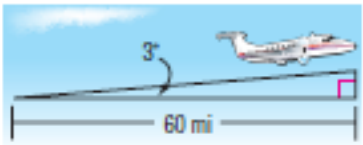
Name _____

8.4 Trigonometry

Date _____ Hour _____

9. SURVEYING Maureen is standing on horizontal ground level with the base of the CN Tower in Toronto, Ontario. The angle formed by the ground and the line segment from her position to the top of the tower is 31.2°. She knows that the height of the tower to the top of the antennae is about 1815 feet. Find her distance from the CN Tower to the nearest foot.

24. AVIATION A plane is one mile above sea level when it begins to climb at a constant angle of 3° for the next 60 ground miles. About how far above sea level is the plane after its climb?



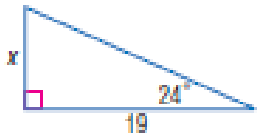
Find the measure of each angle to the nearest tenth of a degree.

38. $\sin B = 0.7245$ **39.** $\cos C = 0.2493$ **40.** $\tan E = 9.4618$

41. $\sin A = 0.4567$ **42.** $\cos D = 0.1212$ **43.** $\tan F = 0.4279$

Find x. Round to the nearest tenth.

44.



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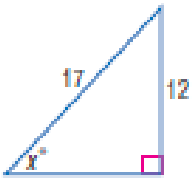

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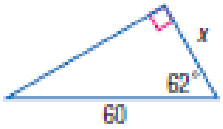

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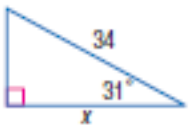

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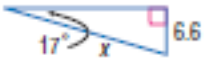
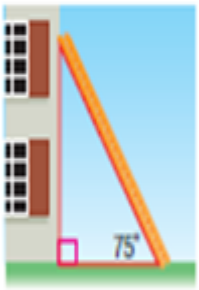


49.

SAFETY **For Exercises 50 and 51, use the following information.**

To guard against a fall, a ladder should make an angle of 75° or less with the ground.

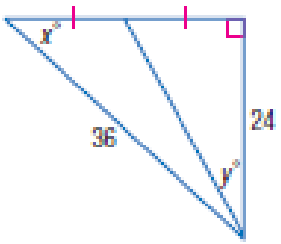


50. What is the maximum height that a 20-foot ladder can reach safely?

51. How far from the building is the base of the ladder at the maximum height?

Find x and y. Round to the nearest tenth.

52.



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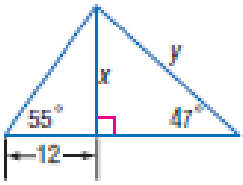

STANDARDIZED TEST PRACTICE

59. In the figure, if $\cos x = \frac{20}{29}$, what are $\sin x$ and $\tan x$?

A $\sin x = \frac{29}{21}$ and $\tan x = \frac{29}{21}$

B $\sin x = \frac{21}{29}$ and $\tan x = \frac{20}{21}$

C $\sin x = \frac{29}{21}$ and $\tan x = \frac{21}{20}$

D $\sin x = \frac{21}{29}$ and $\tan x = \frac{21}{20}$

60. **REVIEW** What is the solution set of the quadratic equation $x^2 + 4x - 2 = 0$?

F $\{-2, 2\}$

G $\{-2 + \sqrt{6}, -2 - \sqrt{6}\}$

H $\{-2 + \sqrt{2}, -2 - \sqrt{2}\}$

J no real solution

61. **REVIEW** Which of the following has the same value as $9^{-15} \times 9^3$?

A 9^{-45}

B 9^{-18}

C 9^{-12}

D 9^{-5}