Geometry   Name _____

8.4 Trigonometry   Date _____   Hour _____

1) Jayden is standing on the street level with the base of CN Tower in Toronto, Ontario. The angle formed by the ground and his line of sight to the top of the tower is 31.2⁰. He knows the height of the tower is 1815 ft (including its antennae). Find the distance between Jayden and the base of the CN Tower to the nearest foot.

2) An airplane is already one mile above sea level when it begins to climb at a constant angle of 3⁰ for the next 60 ground miles. How far above sea level is the plane after its climb?
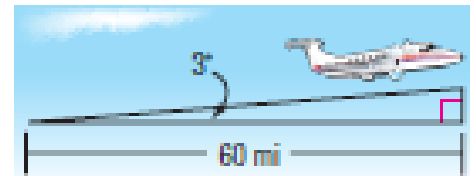
Find the measure of each angle to the nearest tenth of a degree.

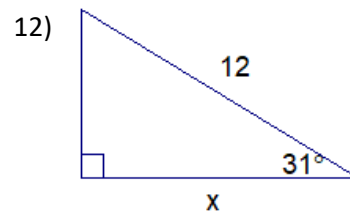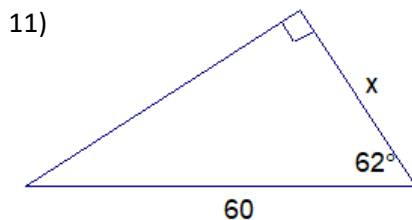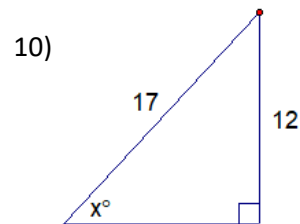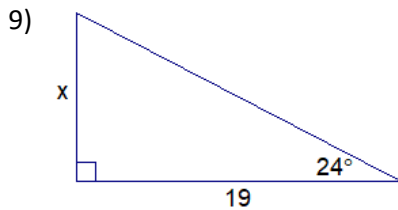3) $\sin B = 0.7245$ 4) $\cos C = 0.2493$ 5) $\tan E = 9.4618$
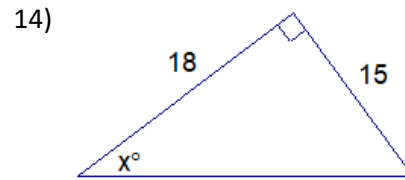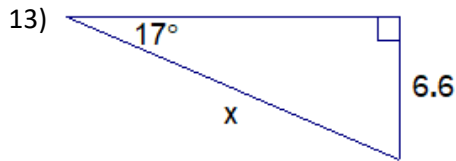

6) $\sin A = 0.4567$ 7) $\cos D = 0.1212$ 8) $\tan F = 0.4279$

Find x. Round to the nearest tenth.

9)

x

24°
19

10)

17   12

x°

11)

x

62°
60
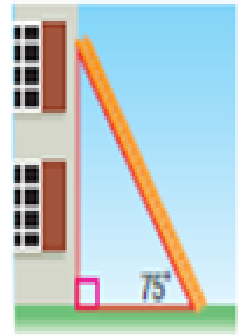
12)

12
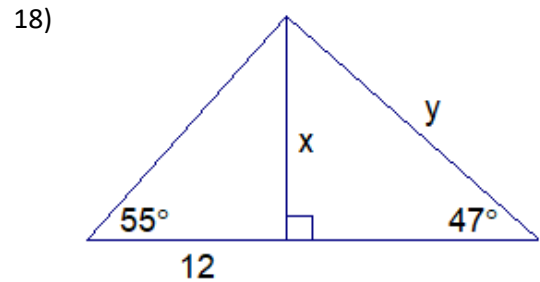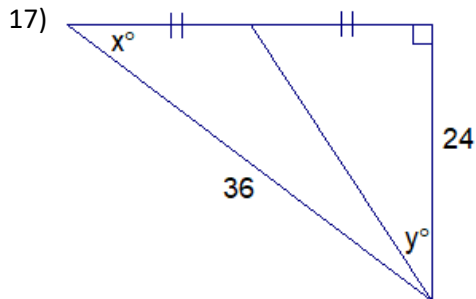
31°
x

13)

17°
6.6
x

14)

18
15
x°

To guard against a fall, a ladder should make an angle of 75⁰ or less with the ground.

15) What is the maximum height that a 20-foot ladder can safely reach?

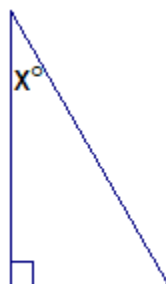16) How far from the building is the base of the ladder at the max height?

75°

Find x and y. Round to the nearest tenth.

17)

x°
24
36
y°

18)

y
x
55°   47°
12

19) For this figure cos x = $\frac{20}{29}$ write a fraction for…

sin x

tan x

x°

20) What are the solutions to this quadratic?

$$x^2 + 4x - 2 = 0$$