SHOW WORK!!

Name: _____ Date: _____

SohCahToa Word Problems HW

___ 1) A wooden beam 24 feet long leans against a wall and makes an angle of 71° with the ground. How high up the wall does the beam reach to the nearest foot?

A) 8 feet
B) 23 feet
C) 70 feet
D) 25 feet

___ 2) A ladder leaning against a building makes an angle of 65° with the ground and reaches a point on the building 20 feet above the ground. What is the length of the ladder to the nearest foot?

A) 9 feet
B) 41 feet
C) 47 feet
D) 22 feet

___ 3) An airplane climbs at an angle of 13° with the ground. What is the distance it has traveled (to the nearest hundred feet) when it has attained an altitude of 400 feet?

A) 410 feet
B) 2,000 feet
C) 1,800 feet
D) 1,700 feet

___ 4) A 20-foot pole leaning against a wall reaches a point 18 feet above the ground. What is the angle which the pole makes with the ground to the nearest degree?

A) 64°
B) 26°
C) 48°
D) 42°

___ 5) When the plane had flown 4,150 feet from the airport where it had taken off, it had covered a horizontal distance of 3,660 feet. What is the angle at which the plane rose from the ground to the nearest degree?

A) 28°
B) 62°
C) 49°
D) 41°

___ 6) At a point on the ground 46 feet from the foot of a tree, the angle of elevation of the top of the tree is 48°. What is the height of the tree to the nearest foot?

A) 50 feet
B) 30 feet
C) 51 feet
D) 33 feet

___ 7) A boy visiting Chicago views the Sears Tower from a point on the ground which is 1,240 feet from the base of the building. The angle of elevation from the boy to the top of the building is $49°$. What is the height of the building to the nearest foot?

A) 814 feet
B) 1,078 feet
C) 1,426 feet
D) 936 feet

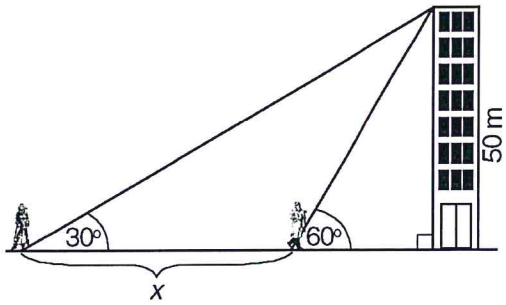
___ 8) The angle of depression of an object on the ground is $14°$ from the top of the tallest building in the world, one of the Petronas towers in Malaysia, which is 1,483 feet high. What is the distance from the object to the base of the tower to the nearest foot?

A) 370 feet
B) 6,130 feet
C) 1,528 feet
D) 5,948 feet

___ 9) The top of a ladder leaning against a building reaches a point on the building which is 29 feet above the ground. If the base of the ladder is 7 feet from the building, what is the measure of the angle that the ladder makes with the level ground to the nearest degree?

A) $76°$
B) $14°$
C) $57°$
D) $36°$

___ 10) Adam and Brian are standing some distance apart on the same side of a building 50 m tall. From where Adam stands, the angle of elevation of the top of the building is $30°$. From where Brian stands, the angle is $60°$. What is the distance x between Adam and Brian to the nearest tenth of a meter?



A) 57.7 m
B) 42.3 m
C) 28.9 m
D) 86.6 m