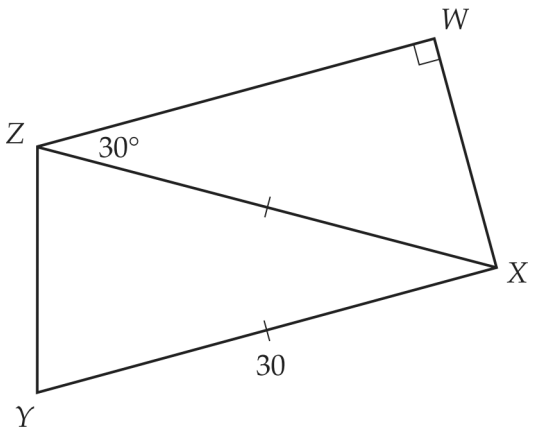
Unit 3 Trigonometry Day 6

Name: _____ **Date:** _____

1. Look at the diagram below.



Note: The figure is not drawn to scale.

What is the length of $\overline{WX}$?

A. 15 units B. 26 units

C. 30 units D. 52 units

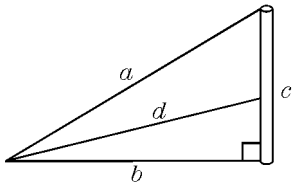
2. In this diagram the height of the pole is 8 m and side $b = 12$ m. What is the angle of elevation?

A. 25.2°

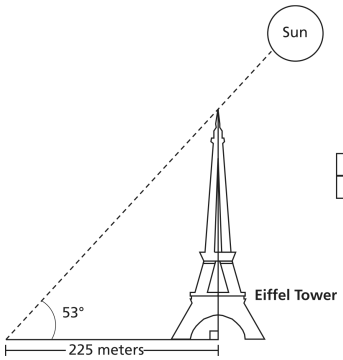
B. 33.7°

C. 48.1°

D. 56.3°



3.



	sin	cos	tan
53°	0.7986	0.6018	1.3270

At a certain time of day, the length of the shadow of the Eiffel Tower to the center of its base was 225 meters when the sun's angle of elevation was 53 degrees. What is the approximate height of the Eiffel Tower?

A. 135 meters B. 180 meters

C. 300 meters D. 375 meters

4. A park ranger is watching a bear from the top of a 14 m tower. If the angle of depression to the bear is 62°, what is the distance from the bear to the base of the tower?

A. 12.4 m B. 26.3 m

C. 30.8 m D. 36.9 m

5. A water tower is located 410 feet from a building. From a window in the building, it is observed that the angle of elevation to the top of the tower is 42 degrees and the angle of depression to the bottom of the tower is 25 degrees. *Approximately* how tall is the water tower?

A. 191 feet B. 369 feet

C. 448 feet D. 560 feet

6. From a point 100 feet from the base of a building, Angie looks up at a 40° angle to the top of a building. She walks 20 feet closer to the building. At *approximately* what angle must Angie now look up to see the top of the building?

A. 32° B. 46°

C. 60° D. 77°

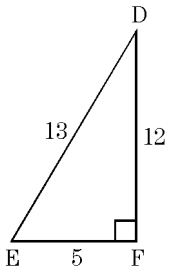
7. In $\triangle DEF$, which of the following is equal to $\frac{5}{12}$?

A. $\sin D$

B. $\sin E$

C. $\cos D$

D. $\tan D$



8. A ladder is leaning against the side of a building. The ladder is 10 meters long and the angle between the ladder and the building is 18°. How far up the building does the ladder reach (to the nearest hundredth)?

A. 9.51 m B. 10.01 m

C. 12.28 m D. 14.22 m

9. Find to the nearest degree a base angle of an isosceles triangle if each leg is 30 and the altitude to the base is 20.

A. 42° B. 40°

C. 44° D. 34°

10. One end of a line segment has the coordinates $(-7, 5)$. If the other end has the coordinates $(19, 3)$, then what are the coordinates of the midpoint?

A. $(12, 8)$ B. $(26, 2)$

C. $(12, 4)$ D. $(6, 4)$