

Unit 4 – Right Triangle Trig EOC Review

1. If the  $\sin(H) = \frac{5}{13}$  in right triangle HIJ find the following information.

a. Missing side \_\_\_\_\_

d.  $\sin(I) =$

b.  $\cos(H) =$

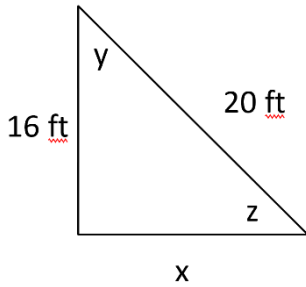
e.  $\cos(I) =$

c.  $\tan(H) =$

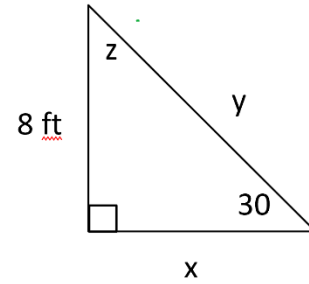
f.  $\tan(I) =$

Find the missing values in the following triangle.

2.

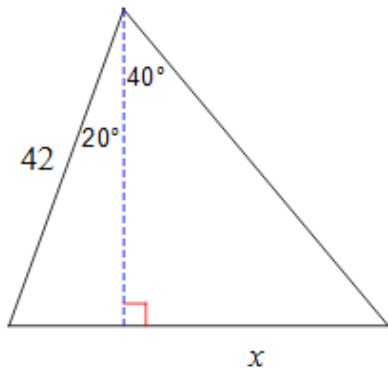


3.

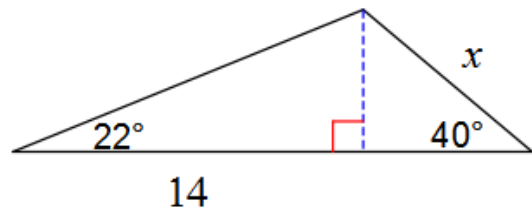


Find the value of  $x$ .

4.



5.



6. A man who is 2 m tall stands on horizontal ground 30 m from a tree. The angle of elevation of the top of the tree from his eyes is  $28^\circ$ . Estimate the height of the tree.
7. A tower is 125 ft tall and uses 200 ft long support wires attached to the ground. What is the angle of elevation that would be necessary to use these support wires?
8. A person standing 30 ft from a flag pole can see the top of the pole at a  $35^\circ$  angle of Elevation. The person's eye level is 5 ft from the ground. Find the height of the flag pole to the nearest foot.
9. The captain of a boat knows that a lighthouse on the coast is 100 ft tall and the boat is 550 ft from the coast. What is the angle of elevation that proves that the boat is 550 ft from the coast?
10. An airplane is flying at a height of 2 miles above the ground. The distance along the ground from the airplane to the airport is 5 miles. What is the angle of depression from the airplane to the airport?

Answers: 1. a. 12, b. 12/13, c. 5/12, d. 12/13, e. 5/13, f. 12/5, 2.  $x=12$ ,  $y=36.87^\circ$ ,  $z=53.13^\circ$ ; 3.  $x=8\sqrt{3}$ ,  $y=16$ ,  $z=60$ ; 4.  $x=33.117$ ; 5.  $=8.800$ ; 6.  $x=15.95$  m; 7.  $x=38.682^\circ$ ; 8. height=26.006 ft; 9.  $10.305^\circ$ ; 10.  $21.801^\circ$