

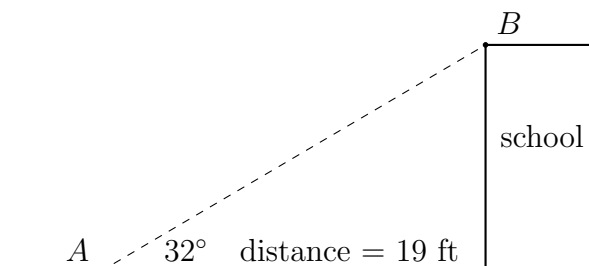
Name:

BECA / Dr. Huson / Geometry 6 Trigonometry

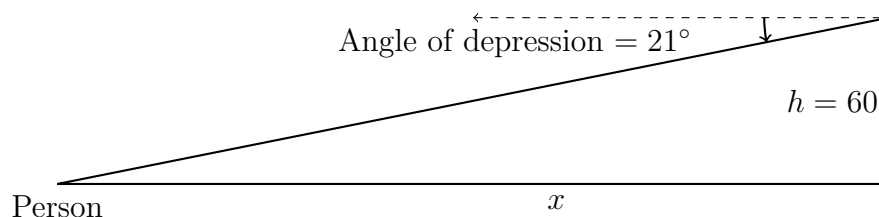
**6.14 Pre-Quiz: Tangent applications****CCSS.HSG.SRT.C.8**

1. Shown is a building with student  $A$  on the ground waving up to student  $B$ . Point  $A$  is 19 feet from the base of the building, and the angle of elevation from  $A$  to  $B$  is  $32^\circ$ .

Find how high up student  $B$  is from the ground to the *nearest foot*. (not to scale)

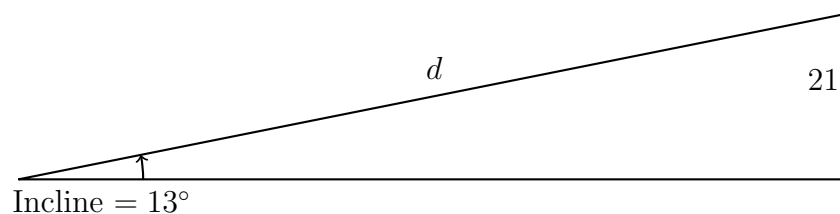


2. From the top of a subway station, a person is visible at an angle of depression of  $21^\circ$ . If the subway station is 60 feet tall, determine the distance from the person to the base of the subway station,  $x$ , to the *nearest foot*.



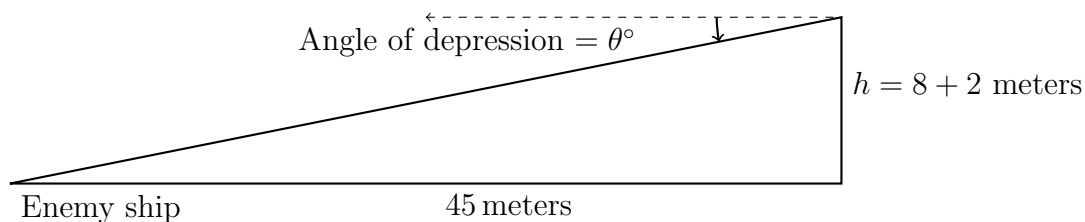
3. A child sleds from the top of a hill to a group of friends standing at the base of the hill. The hill is 21 feet tall, and the hill's incline is  $13^\circ$ . Find the distance,  $d$ , from the sledder to the group of friends to the *nearest foot*.

(hint: First find the horizontal distance, the base of the triangle. Then use the Pythagorean theorem to find the hypotenuse,  $d$ .)



4. A pirate, who is two meters tall, is standing on a mast 8 meters tall. Looking down, the pirate sees an enemy ship 45 meters away.

Find the angle of depression to the nearest degree.



5. A snowman is standing 10 meters away from the base of a set of monkey bars, looking up at a boy 3 meters off the ground. The snowman is 1 meter tall.

(a) Mark the triangle.

(b) Find the angle from the snowman's head to the boy,  $\theta$ , to the nearest tenth degree.

(not drawn to scale)

