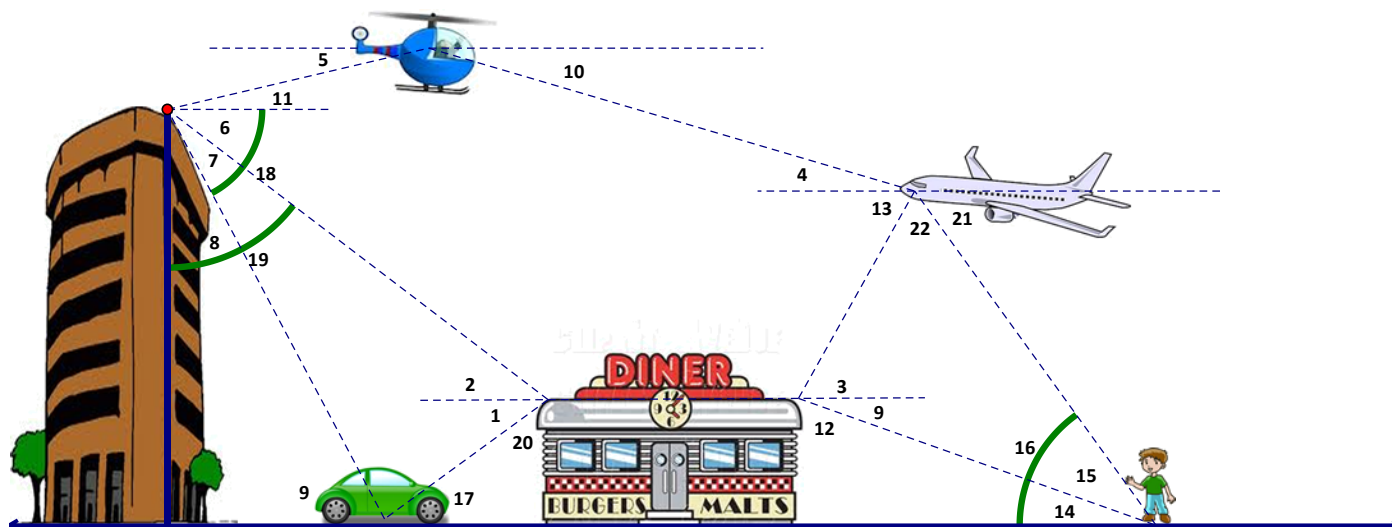


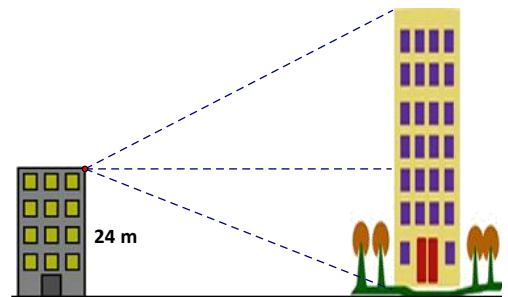
1. Choose the correct angle number for the provided description.



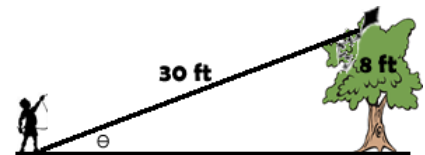
- the angle of elevation from the **CAR** to the top of the **DINER** is \_\_\_\_\_.
- the angle of depression from the top of the **TALL BUILDING** to the **DINER** is \_\_\_\_\_.
- the angle of elevation from the **PLANE** to the **HELICOPTER** is \_\_\_\_\_.
- the angle of depression from the top of the **DINER** to the **BOY** is \_\_\_\_\_.
- the angle of depression from the **HELICOPTER** to the **PLANE** is \_\_\_\_\_.
- the angle of depression from the **PLANE** to the top of the **DINER** is \_\_\_\_\_.
- the angle of elevation from the **BOY** to the top of the **DINER** is \_\_\_\_\_.
- the angle of depression from the top of the **TALL BUILDING** to the top of the **CAR** is \_\_\_\_\_.
- the angle of depression from the **HELICOPTER** to the top of the **TALL BUILDING** is \_\_\_\_\_.
- the angle of elevation from the top of the **DINER** to the top of the **TALL BUILDING** is \_\_\_\_\_.
- the angle of angle of elevation from the top of the **DINER** to the **PLANE** is \_\_\_\_\_.
- the angle of depression from the top of the **DINER** to the **CAR** is \_\_\_\_\_.
- the angle of elevation from the **BOY** to the front of the **PLANE** is \_\_\_\_\_.
- the angle of depression from the front of the **PLANE** to the **BOY** is \_\_\_\_\_.
- the angle of elevation from the **TALL BUILDING** to the **HELICOPTER** is \_\_\_\_\_.

For each problem solve for the requested information. **SHOW ALL WORK!**

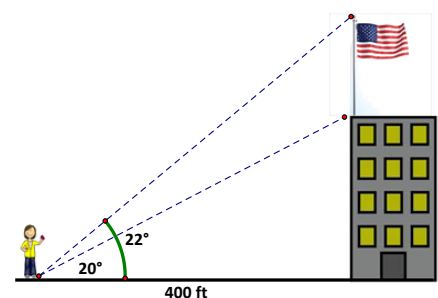
2. From an apartment window 24 m above the ground, the angle of depression of the base of a nearby building is  $38^\circ$  and the angle of elevation of the top is  $63^\circ$ . Find the height of the nearby building (to the nearest meter).



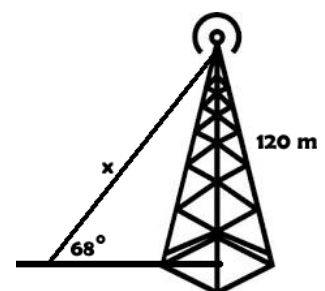
3. You are flying a kite and have let out 30 ft of string but it got caught in a 8 ft tree. What is the angle of elevation to the location of the kite?



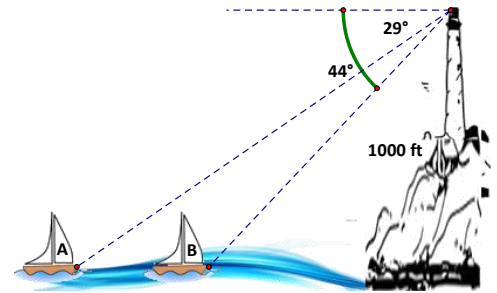
4. A flagpole is at the top of a building. 400 ft from the base of the building, the angle of elevation of the top of the pole is  $22^\circ$  and the angle of elevation of the bottom of the pole is  $20^\circ$ . Determine the length of the flagpole (to the nearest foot).



5) A guy wire reaches from the top of a 120 m television transmitter tower to the ground. The wire makes a  $68^\circ$  angle with the ground. Find the length of the guy wire.

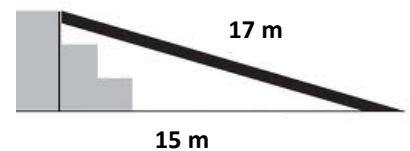


6. From a lighthouse 1000 ft above sea level, the angle of depression to a boat (A) is  $29^\circ$ . A little bit later the boat has moved closer to the shore (B) and the angle of depression measures  $44^\circ$ . How far (to the nearest foot) has the boat moved in that time?



7. a) A ramp is 17 m long, if the horizontal distance of the ramp is 15 m. What is the vertical distance?

b) What is the angle of elevation of the ramp?



8. A firefighter on the ground sees the fire break through a window. The angle of elevation to the windowsill is  $32^\circ$ . The angle of elevation to the top of the building is  $40^\circ$ . If the firefighter is 72 ft from the building, what is the distance from the roof to the window sill?

