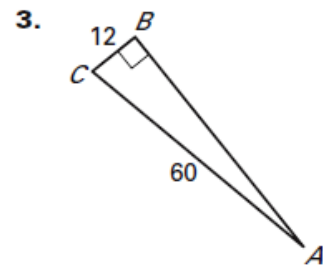
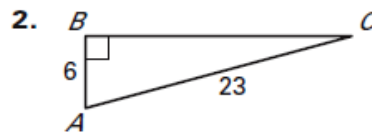
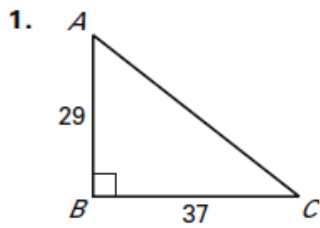
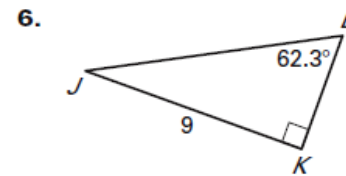
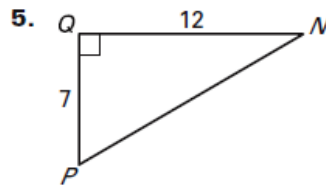
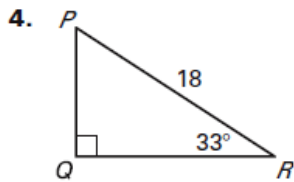


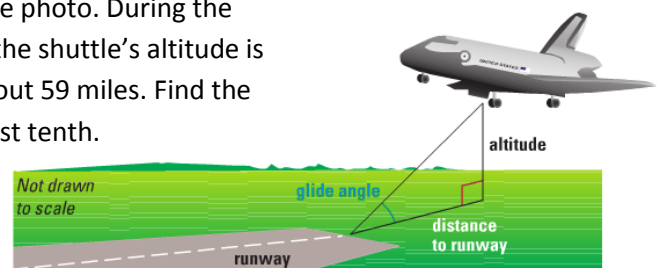
**Use a calculator to approximate the measure of  $\angle A$  to the nearest tenth of a degree.**



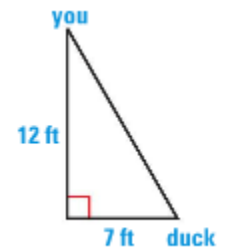
**Solve the right triangle. Round decimal answers to the nearest tenth.**



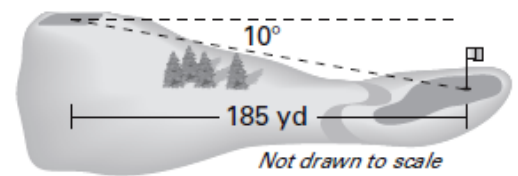
7. The glide angle of a space shuttle is the angle indicated in the photo. During the shuttle's approach to Earth, the glide angle changes. When the shuttle's altitude is about 15.7 miles, its horizontal distance to the runway is about 59 miles. Find the measure of the glide angle. Round your answer to the nearest tenth.



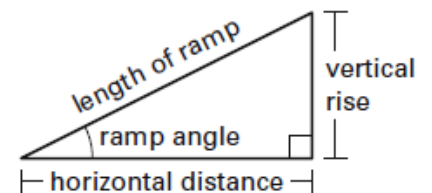
8. You are standing on a footbridge in a city park that is 12 feet high above a pond. You look down and see a duck in the water 7 feet away from the footbridge. What is the angle of elevation between the duck and where you are standing on the bridge?



9. The angle of depression from the tee box to the green is  $10^\circ$  on a par 3, 185 yard hole. How much higher is the tee box than the green? Round to the nearest yard.

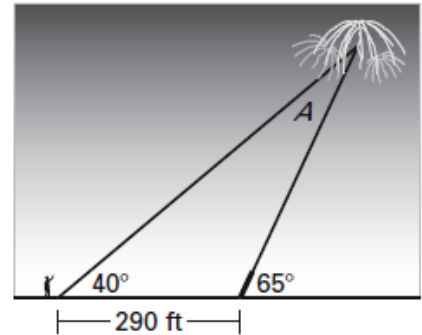


10. You are designing a ramp where the horizontal distance is twice as long as the vertical rise. What will be the ramp angle to the nearest tenth of a degree?



11. You are watching a fireworks display where you are standing 290 feet behind the launch pad. The launch tubes are aimed directly away from you at an angle of  $65^\circ$  with the ground. The angle of elevation for you to see the fireworks is  $40^\circ$ .

a) To the nearest foot, what is the horizontal distance from the launch pad to the ignition point of the fireworks?



b) To the nearest foot, what is the height of the fireworks when they ignite?

c) What is the measure of angle  $A$ ?

**Answer Key**

1)  $m\angle A = 51.9^\circ$  2)  $m\angle A = 74.9^\circ$  3)  $m\angle A = 11.5^\circ$  4)  $m\angle P = 57^\circ$ ,  $PQ \approx 9.8$ ,  $QR \approx 15.1$

- 5)  $m\angle P \approx 59.7^\circ$ ,  $m\angle N \approx 30.3^\circ$ ,  $PN \approx 13.9$       6)  $JL \approx 10.2$ ,  $LK \approx 4.7$ ,  $m\angle J = 27.7^\circ$   
7)  $14.9^\circ$     8)  $59.7^\circ$     9) 33 yd    10)  $26.6^\circ$     11 a) 186 ft    b) 400 ft    c)  $25^\circ$