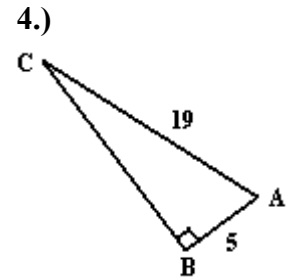
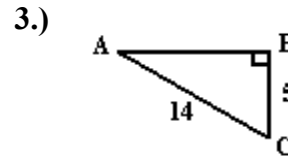
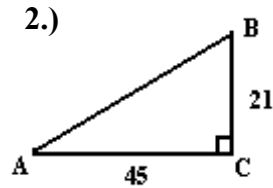
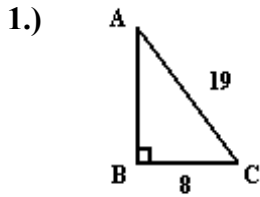


CP Geometry:  
Right Triangle Trigonometry / Finding Angle Measures

Name: \_\_\_\_\_

In Problems 1 - 8, find the measure of the acute angles to the nearest tenth of a degree.



- 5.) A ladder truck must reach to the top of an empty warehouse that caught on fire. The truck's ladder stretches 75 feet. If it just makes it to the top of the 48 foot building (**and the fire truck itself is 6 feet off the ground**):

- (A) What angle does the ladder form with the truck?  
(B) What is the angle of depression between the building and the truck's ladder?



- 6.) A particular movie screen's height is 15 feet. If a person is sitting 80 feet away so his horizontal eyesight matches the bottom of the screen, what angle is formed when he views the entire screen?
- 7.) Again, a movie screen is 15 feet tall. This time, the person's (sitting 92 feet away from the screen) horizontal eyesight falls to a position 4 feet from the bottom of the screen. What angle is formed when this person views the entire movie screen?

- 8.) A certain wheelchair ramp has a slope of  $1/15$ . What is the measure of the angle of elevation of the ramp?
- 9.) A 12 meter ladder is set against a wall so its base is 8 meters from the wall. What is the angle of elevation of the ladder?
- 10.) In Coordinateville, all roads run east-west or north-south, so a map of the town looks like a coordinate plane with all roads intersecting at right angles. The superintendent of schools wants to create two new roads (not following these rules) in order to have a more direct route from the middle school to the high school and from the superintendent's office to the high school.
- Currently, to go from the high school to the middle school, you need to travel 4 blocks south then 3 blocks east. To go from the high school to the superintendent's office, you travel 7 blocks east then 4 blocks south.
- If two new roads are constructed, one from the middle school to the high school and one from the superintendent's office to the high school, what will be the measure, in degrees, of the angle formed by their intersection?
- 11.) A laser on top of a 520 foot building measures the distance to a nearby lake to be 1.2 miles. What angle of depression is formed by the laser's beam?
- 12.) An engineer determines that the angle of elevation from her position to the top of a tower is 52 degrees. She measures the angle of elevation again from a point 47m farther from the tower and finds it to be 31 degrees. Find the height of the tower.
- 13.) Josh goes to an art museum. He looks at a large framed picture that is 4 feet tall as he stands 7 feet away from the wall. If this picture is hanging on the wall three feet above Josh's horizontal line of sight, what angle is formed by Josh's eyes as he views the picture from top to bottom?