

Accel Math III Practice Worksheet #5: Law of Sine and Cosine Name _____
Unit #7: Extended Trigonometry
MA3A6 d

Find the part indicated. Give lengths to nearest hundredth and angle measure to nearest degree.

1. $a = 4, c = 3, \angle B = 85^\circ, b =$ _____

2. $a = 8, \angle A = 40^\circ, \angle B = 30^\circ, b =$ _____

3. $c = 8, \angle A = 16^\circ, \angle C = 52^\circ, a =$ _____

4. $g = 5, h = 3, i = 7, \angle G =$ _____

5. $j = 5, p = 6, \angle K = 65.5^\circ, k =$ _____

6. $a = 5, b = 9, \angle A = 22.3^\circ, \angle B =$ _____

7. $d = 5, e = 4, f = 5, \angle D =$ _____

8. $a = 12, \angle B = 42.1^\circ, \angle C = 34.6^\circ, b =$ _____

9. In $\triangle RST$, $r = 12, s = 4$, and $t = 9$. Find both the smallest and largest angles. _____

10. The cross-section of a mountain approximates a triangle. The west side of the mountain is 2.4 km long from the base to the peak and has a slope of 32.4° with the horizontal. The east side has a slope of 28.6° with the horizontal. What will be the length of a tunnel that is to be drilled through the base from the west side to the east side?

11. A surveyor sets out stakes at the extreme ends, U and V , of a property line. A point W is located such that $UW = 800$ m, $VW = 500$ m, and $\angle UWV = 102^\circ$. What is the distance from U to V ?

12. A weather satellite malfunctioned and returned to Earth by parachute. Two observers, 30 km apart, recorded the landing site as being 52.8° and 83.1° , respectively, from the line segment joining their two positions. How far did the satellite land from each of the observers?

13. Two snowmobilers start from the same point and drive at 10 km/h and 12 km/h, respectively, diverging at an angle of 110° . Two hours after leaving, they find that their radio transmissions are barely audible. How far apart are they at that time?
