



Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

### AREA and LAW of SINES/COSINES REVIEW WORKSHEET

**Formulas:**

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

$$\text{Area} = \frac{1}{2} ab \sin C$$

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}, \quad s = \frac{a+b+c}{2}$$

**Find the area of each oblique triangle:**

1.  $A = 30^\circ, b = 12, c = 9$

2.  $a = 5, b = 3, c = 4$

3.  $C = 58^\circ, a = 12, b = 15$

4.  $a = 52, b = 31, c = 43$

5. Your backyard has a great spot to build a play area this summer. The ground must be covered with sand that costs \$16 per square meter. If the sides of the triangular plot of land measure 8.24m, 7.67m, and 8.13m, what will be the cost of the sand needed to cover this area?

6. Josh, Mary and Evan are playing frisbee in the school field. Their current positions form a triangle with the angle at Josh equal to  $44^\circ$  and the angle at Mary equal to  $21^\circ$ . If Mary is 15 meters from Evan, what is the area of the triangular plot formed by Josh, Mary and Evan?

7. Sketch two different triangles such that:  $a = 19$ ,  $b = 25$ ,  $A = 43^\circ$ .

8. Solve the two triangles you sketched in problem 7 above.

9. Solve each triangle.



10. Solve the triangle below.

