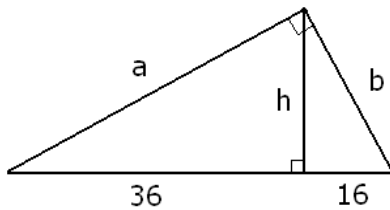


Problem Set 3

1. In the triangle ABC , $\alpha = 37^\circ$, $\gamma = 73^\circ$, and $a = 2$ m. Label the following statements as true or false.
 - (a) The triangle is uniquely determined by the data given.
 - (b) b is the longest side.
 - (c) $c \geq 2$ m
2. Find the distance between the points $(3, 7)$ and $(11, -8)$.
3. To obtain the right color, we need to mix red paint with blue paint in a ratio of 2 to 5. How much blue paint should be mixed with 18 gallons of red paint?
4. Find the area of the triangle ABC , where $A(4, -3)$, $B(8, 1)$, and $C(5, 3)$.
5. Two sides of a right triangle are 20 yd and 29 yd long. Find the third side.
6. Convert 0.83 miles to inches. (1 mile = 5280 ft and 1 ft = 12 in)
7. Find a , b , and h .



8. A tree casts a shadow of 24 ft at the same time a 5 ft vertical yardstick casts a shadow of 4 ft. How tall is the tree?
9. Find the length of the diagonal of the rectangle with sides 28 m and 45 m long.
10. Find the measure of an inner angle of a regular polygon with 12 sides.
11. Determine if triangles ABC and PQR are similar or not. The following is given: $PQ = 15$, $QR = 18$, $RP = 12$, $AB = 8$, $BC = 10$, $CA = 12$.
12. A rectangular prism has dimensions 2 in, 3 in, and 5 in. Find the length of the diagonal.

