

Algebra 3 Assignment # 18

- (1) Solve each of the following right triangles please. Express all sides and angles correct to two decimal places.

(a) $a = 5.7$, $b = 6.9$, $\gamma = 90^\circ$

(c) $c = 11.5$, $\alpha = 51.6^\circ$, $\gamma = 90^\circ$

(b) $a = 13.32$, $\alpha = 18.7^\circ$, $\gamma = 90^\circ$

(d) $a = 20$, $c = 29$, $\gamma = 90^\circ$

- (2) The diagonals of a rectangle measure 18 and intersect at an angle of 46.6° . Find the dimensions of the rectangle please.

- (3) A man is standing 100 feet from the base of a tall building. There is a large flagpole near the edge of the building. He measures the angles of elevation to the top and bottom of the flagpole to be 28.37° and 24.70° respectively. How tall is the flagpole?

- (4) Each side of a rhombus measures 12 inches. One of the angles of the rhombus is 53.6° . Find the area of the rhombus please.

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Answers

(1) **(a)** $c = 8.95$, $\alpha = 39.56^\circ$, $\beta = 50.44^\circ$

(b) $\beta = 71.30^\circ$, $b = 39.35$, $c = 41.55$

(c) $\beta = 38.40^\circ$, $a = 9.01$, $c = 7.14$

(d) $b = 21$, $\alpha = 46.40^\circ$, $\beta = 43.60^\circ$

(2) 7.12 in. by 16.53 in.

(3) 8.01 feet

(4) 115.90 square inches