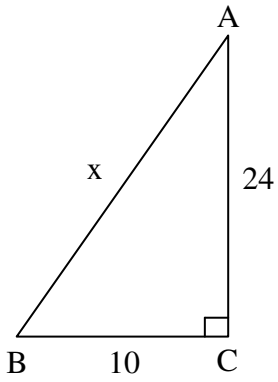
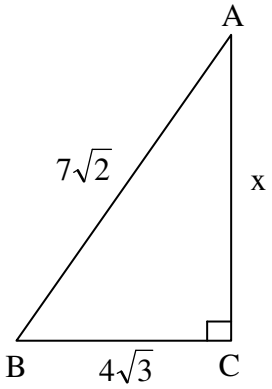
Geo 9 Ch 8 Right Triangles Geometry Review Worksheet

(1) Solve for x given each of the right triangles below, with sides as indicated.

(a)



(b)



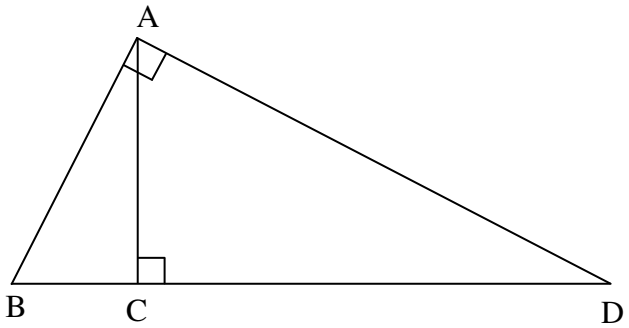
(2) Given the figure below, $\overline{AC} \perp \overline{BD}$, $\overline{AB} \perp \overline{AD}$, find the indicated lengths given sides as indicated.

(a) BC = 2 , CD = 8 **Find:** AB_____ AC_____AD_____

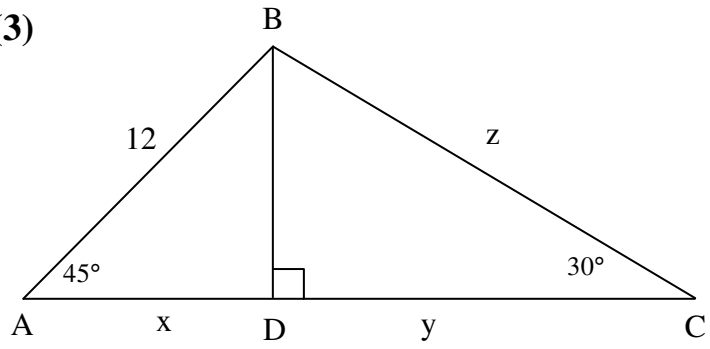
(b) AD = 20, AC = 12 **Find:** AB_____BC_____CD_____

(c) AC = 8 , CD = 16 **Find:** AB_____BC_____AD_____

(d) AB = 6 , CD = 5 **Find:** BC_____AC_____AD_____



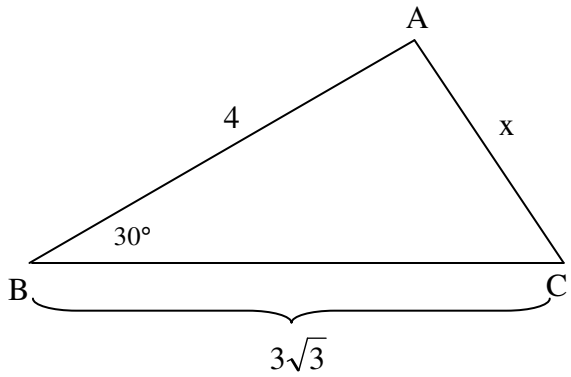
(3)



Given: $\overline{BD} \perp \overline{AC}$, sides and angles as marked.

Find: x_____ , y_____ , z_____

(4)



Given: sides and angles as marked.

Find: x_____. Is ∠A obtuse, right, or acute?

(5) The perimeter of a rhombus is 20. The length of the longer diagonal is 8. How long is the shorter diagonal?

(6) The altitude of an equilateral triangle is 12. Find the perimeter of the triangle.

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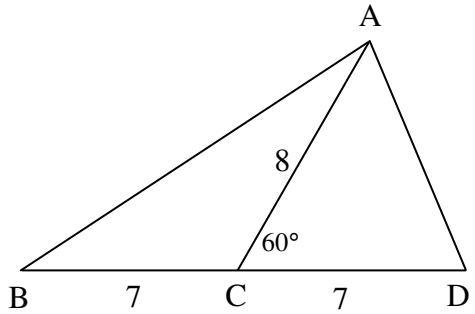
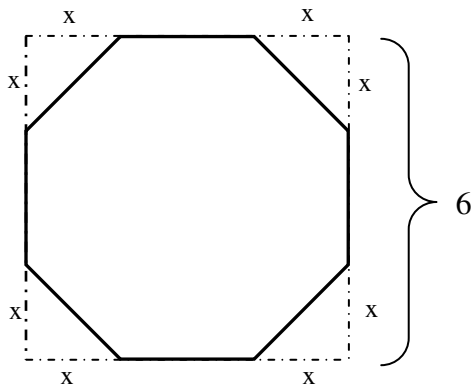
(7)



Given: sides and angles as marked

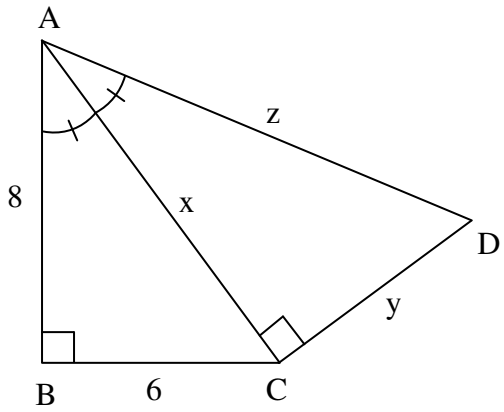
Find: AB_____ , AD_____

(8)



The corners are cut off a 6 inch square to form a regular octagon as shown. **Find:** x_____

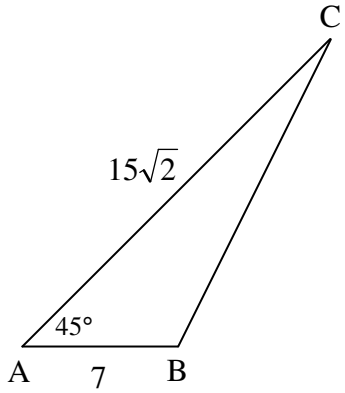
(9)



Given: sides and angles as marked

Find: x_____ , y_____ , z_____

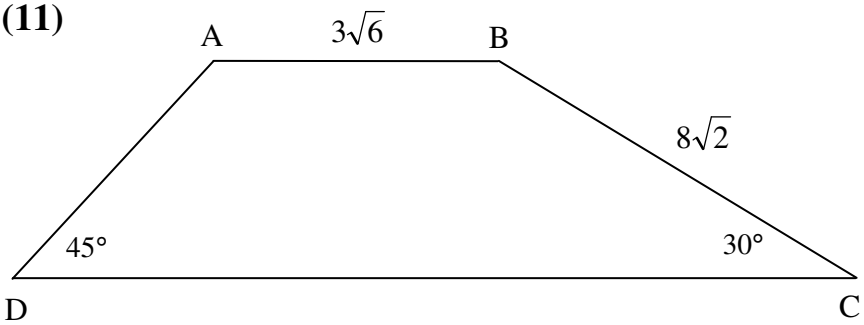
(10)



Given: sides and angles as marked

Find: BC_____

(11)



Given: $\overline{AB} \parallel \overline{CD}$, sides and angles as marked

Find: AD_____ and CD_____.

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Answers

(1) **(a)** $x = 26$ **(b)** $x = 5\sqrt{2}$

(2) **(a)** $AB = 2\sqrt{5}$, $AC = 4$, $AD = 4\sqrt{5}$

(b) $AB = 15$, $BC = 9$, $CD = 16$

(c) $AB = 4\sqrt{5}$, $BC = 4$, $AD = 8\sqrt{5}$

(d) $BC = 4$, $AC = 2\sqrt{5}$, $AD = 3\sqrt{5}$

(3) $x = 6\sqrt{2}$, $y = 6\sqrt{6}$, $z = 12\sqrt{2}$

(4) $x = \sqrt{7}$, $\angle A$ is obtuse

(5) 6

(6) $24\sqrt{3}$

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Answers

(7) AB = 13 , AD = $\sqrt{57}$

(8) 6 − $3\sqrt{2}$

(9) x = 10 , y = $\frac{15}{2}$, z = $\frac{25}{2}$

(10) BC = 17

(11) AD = 8 , CD = $4\sqrt{2}$ + $7\sqrt{6}$

(12) x = 24