Practice 8-3

Special Right Triangles
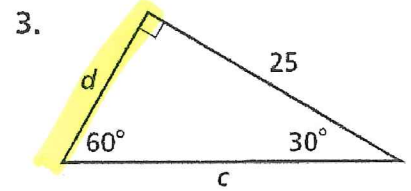
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Find the value of each variable. Leave your answers in simplest radical form.

1.

60°
x
1 SL
30°
y
LL

$x =$ __2__ $y =$ __$\sqrt{3}$__

2.

60°
9
a
30°
b

$a = \dfrac{9}{2}$ $b = \dfrac{9}{2}\sqrt{3}$

3.

25
d
60°   30°
c

$c = \dfrac{50}{3}\sqrt{3}$ $d = \dfrac{25}{3}\sqrt{3}$

4.

x 8
8

$x =$ __$8\sqrt{2}$__

5.

y y
28

$y = 14\sqrt{2}$

6.

14
30°
60°
x
$\dfrac{14}{3}\sqrt{3}$
60°
30°

$x = \dfrac{28}{3}\sqrt{3}$

7.

$\sqrt{2}$
$\sqrt{2}$ z $\sqrt{2}$
$\sqrt{2}$

$z =$ __2__

8.

60°
30
x
30°
y

$x =$ __15__ $y = 15\sqrt{3}$

9.

s
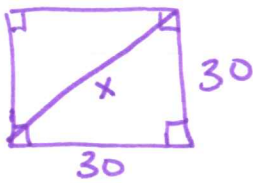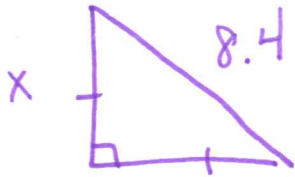s 6 s
s
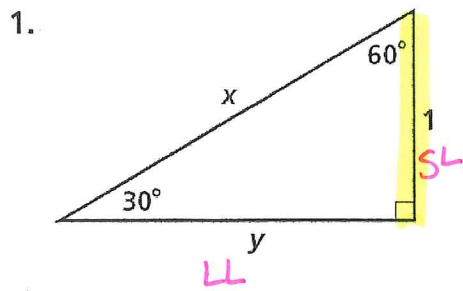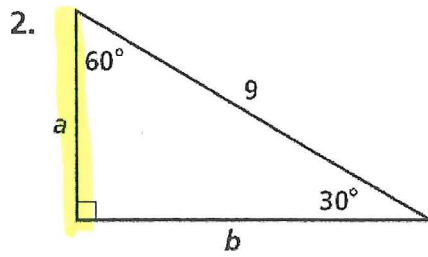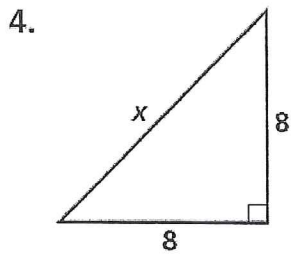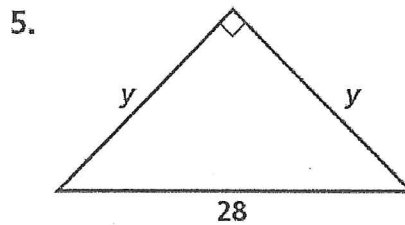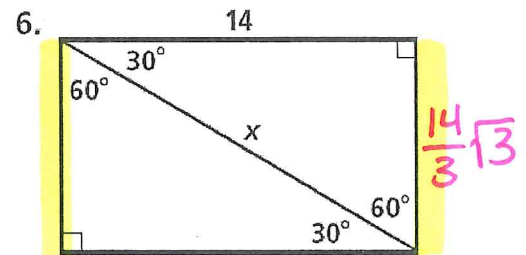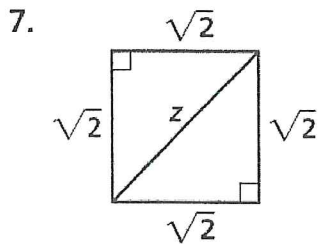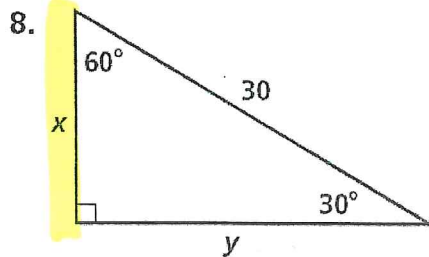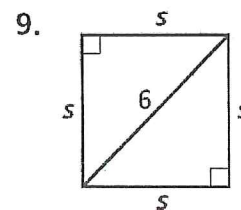
$s = 3\sqrt{2}$

10. Find the length ~~to the nearest centimeter~~ of the diagonal of a square with 30 cm on a side.
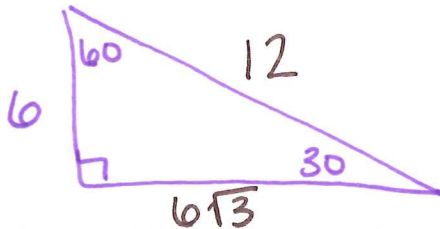
H's a 45-45-90 Δ

$X = 30\sqrt{2}$

30 / 30 / x

11. The hypotenuse of an isosceles right triangle is 8.4 in. find the length of a side ~~to the nearest tenth~~.
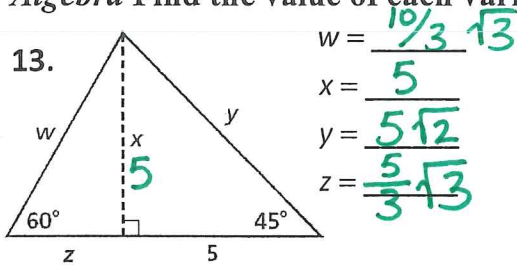
$X = 4.2\sqrt{2}$

x / 8.4

12. In a 30°- 60° - 90° triangle, the shorter leg is 6 ft long. Find the length of the other two sides ~~to the nearest tenth~~.

60 / 12 / 6 / 30 / $6\sqrt{3}$

Algebra Find the value of each variable. Leave your answers in simplest radical form.

13.

$w = \frac{10}{3}\sqrt{3}$

$x = 5$

$y = 5\sqrt{2}$

$z = \frac{5}{3}\sqrt{3}$

w / y / x / 5 / 60° / 45° / z / 5

14.

5

|—2—|—5—3—|

60° / $2\sqrt{3}$ / $2\sqrt{3}$ / a / b

$a = 4$

$b = 3$

15.

4 / 60° / p / r / q / 45° / s

$p = 4\sqrt{3}$

$q = 4\sqrt{3}$

$r = 8$

$s = 4\sqrt{6}$