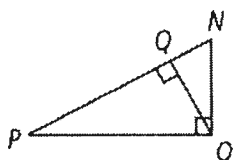


8.4 & 8.5 – Using Similar Right Triangles & Special Right Triangles

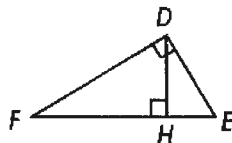
Write a similarity statement relating the three triangles in the diagram.

1)



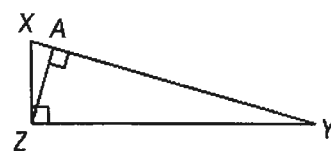
$$\triangle PNO \sim \triangle PQQ \sim \triangle NQO$$

2)



$$\triangle FDE \sim \triangle FHD \sim \triangle EHD$$

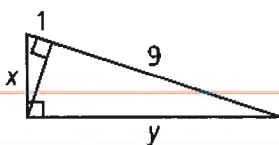
3)



$$\triangle XYZ \sim \triangle XZA \sim \triangle ZYA$$

Solve for the value of the variables in each right triangle.

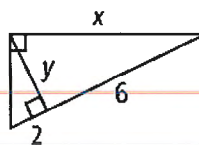
4)



$$x = \sqrt{10}$$

$$y = 3\sqrt{10}$$

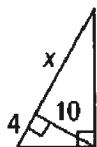
5)



$$x = 4\sqrt{3}$$

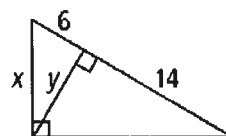
$$y = 2\sqrt{3}$$

6)



$$x = 25$$

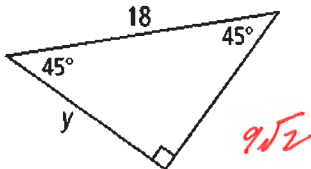
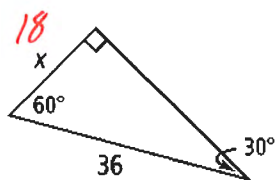
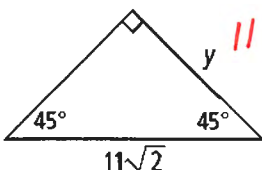
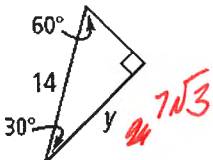
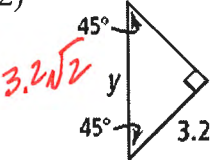
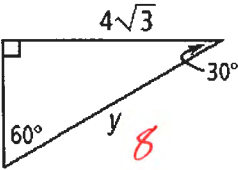
7)



$$x = 2\sqrt{30}$$

$$y = 2\sqrt{21}$$

Find the value of each variable. If your answer is not an integer, express it in simplest radical form.

- 8) 
- 9) 
- 10) 
- 11) 
- 12) 
- 13) 

The side lengths of a triangle are given. Determine if the triangle is a 45°-45°-90° triangle, a 30°-60°-90° triangle, or neither.

- 14) 11, $11\sqrt{3}$, 22
Handwritten answer: 30°-60°-90°
- 15) 31, $31\sqrt{2}$, 62
Handwritten answer: Neither

- 16) A square has side length 95. What is the length of the diagonal of the square? Express your answer in simplest radical form.

Handwritten answer: $95\sqrt{2}$

- 17) A professional baseball diamond is a square. The distance from base to base is 90 ft. To the nearest foot, how far does a catcher standing at home plate throw the ball across the diagonal of the square to second base?

Handwritten answer: 127 ft.

- 18) A square tablecloth has a line of embroidered flowers along the diagonal. The tablecloth is 48 in. on each side. How long is the embroidery line? Round to the nearest inch.

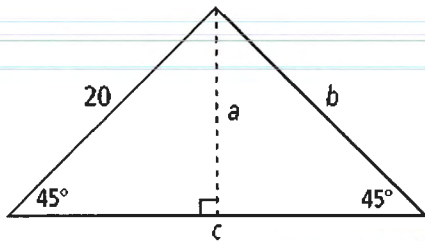
68 in

- 19) An equilateral triangle has height 26 cm. What is the length of each side of the triangle, to the nearest centimeter?

30 cm

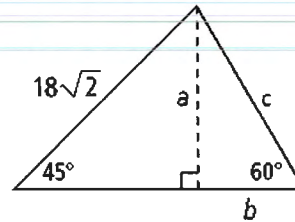
Find the value of each variable. If your answer is not an integer, express it in simplest radical form.

20)



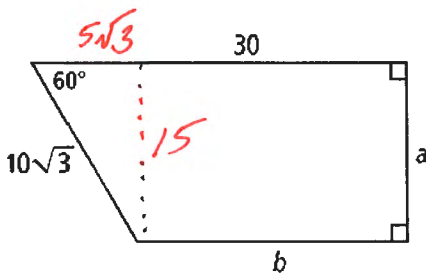
*$a = 10\sqrt{2}$
 $b = 20$
 $c = 20\sqrt{2}$*

21)



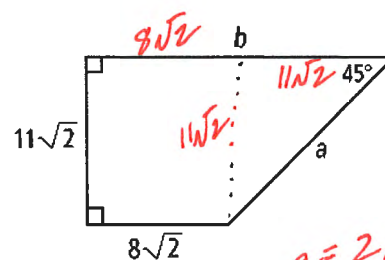
*$a = 18$
 $b = 6\sqrt{3}$
 $c = 12\sqrt{3}$*

22)



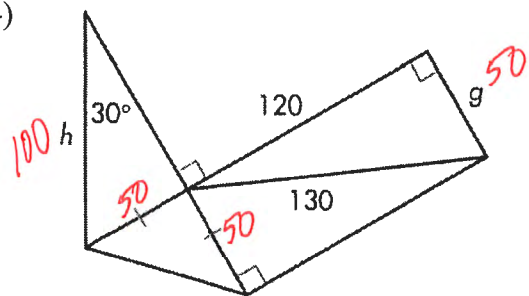
*$a = 15$
 $b = 30 - 5\sqrt{3}$*

23)



*$a = 22$
 $b = 19\sqrt{2}$*

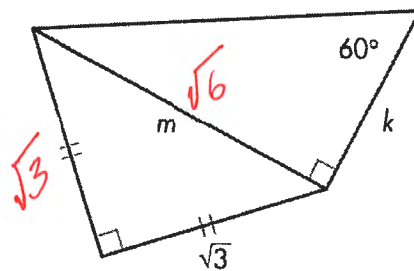
24)



$$g = 50$$

$$h = 100$$

25)



$$m = \sqrt{6}$$

$$k = \sqrt{2}$$