Name: KEY

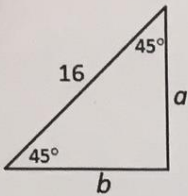Date: _____ Period: _____ Geo w/ Trig

Practice B

Part A: Find the value of the variables. Leave all values in simplest radical form.

1.

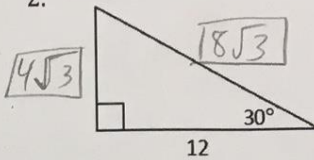45°
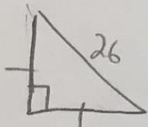16
a
45°
b

$a = \dfrac{16}{\sqrt{2}} \cdot \dfrac{\sqrt{2}}{\sqrt{2}} = \dfrac{16\sqrt{2}}{2}$

$\boxed{a = 8\sqrt{2}}$ $\boxed{b = 8\sqrt{2}}$

2.

$\boxed{8\sqrt{3}}$
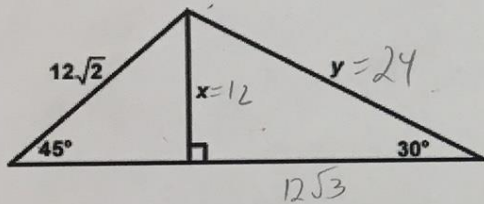$\boxed{4\sqrt{3}}$
30°
12

3. An isosceles right triangle has a hypotenuse of length 26. What is the length of each leg?

26

$x = \dfrac{26}{\sqrt{2}} \cdot \dfrac{\sqrt{2}}{\sqrt{2}} = \dfrac{26\sqrt{2}}{2} = \boxed{13\sqrt{2}}$

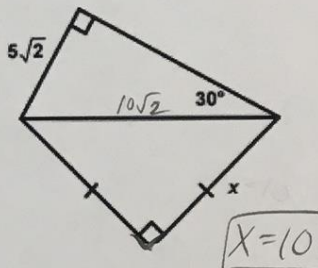**Part B:** Find the value of the variables. Leave all values in simplest radical form.
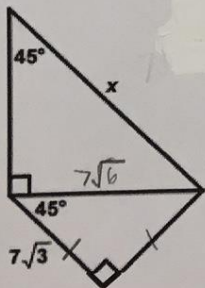
1.

$12\sqrt{2}$
$x = 12$
$y = 24$
45°
30°
$12\sqrt{3}$

$\boxed{\begin{array}{l} X = 12 \\ Y = 24 \end{array}}$

2.

$5\sqrt{2}$
$10\sqrt{2}$ 30°
x

$\boxed{X = 10}$

3.

45°
x
$7\sqrt{6}$
45°
$7\sqrt{3}$

$X = 7\sqrt{6} \cdot \sqrt{2}$
$X = 7\sqrt{12}$
$= 7\sqrt{4}\sqrt{3}$
$= 7 \cdot 2\sqrt{3}$
$= \boxed{14\sqrt{3}}$

4.

$2 = r$ 60°
$\sqrt{3} = p$
60°
$2\sqrt{3}$
q
30°
3

$\boxed{\begin{array}{l} r = 2 \\ p = \sqrt{3} \\ q = 2\sqrt{3} \end{array}}$

$p = \dfrac{3}{\sqrt{3}} \cdot \dfrac{\sqrt{3}}{\sqrt{3}} = \dfrac{3\sqrt{3}}{3} = \sqrt{3}$