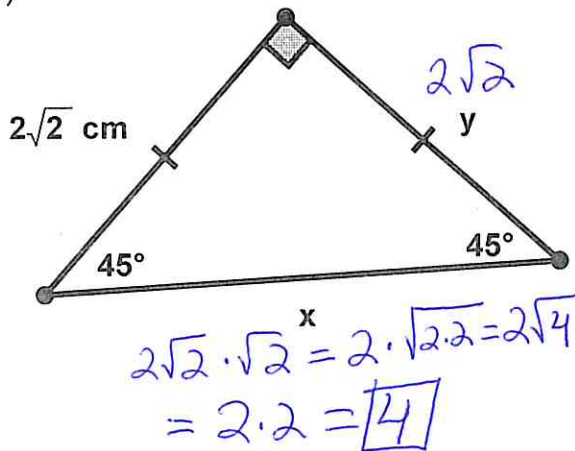NAME: Key

MME Practice: 9th Concept – Day 5

**Prove and use the relationships among the side lengths and the angles of 30° -**
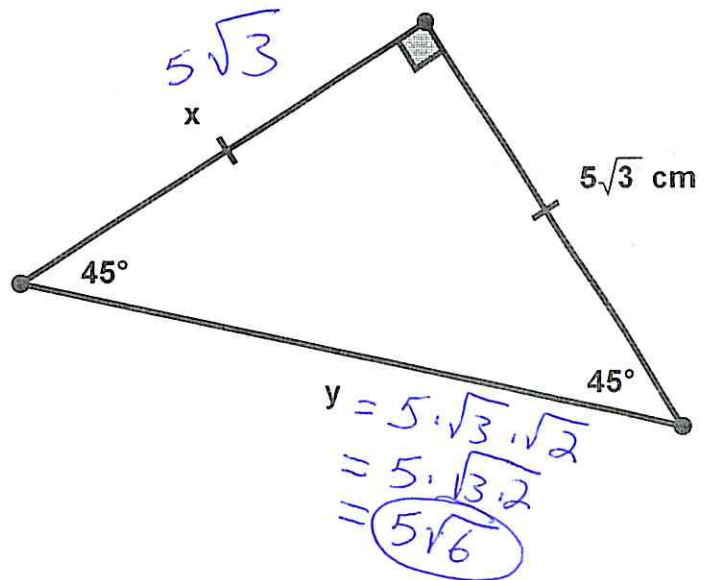
**60° - 90° triangles and 45° - 45° - 90° triangles.**

Find the value of each variable. If your answer is not an integer, express it in simplest radical form.
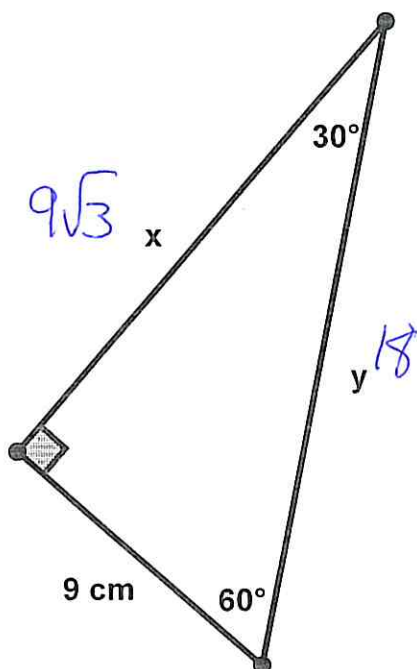
1.)

$2\sqrt{2}$ cm

$2\sqrt{2}$
y

45°    45°

x

$2\sqrt{2} \cdot \sqrt{2} = 2 \cdot \sqrt{2 \cdot 2} = 2\sqrt{4}$
$= 2 \cdot 2 = \boxed{4}$

2.)

$5\sqrt{3}$
x

$5\sqrt{3}$ cm

45°        45°

$y = 5 \cdot \sqrt{3} \cdot \sqrt{2}$
$= 5 \cdot \sqrt{3 \cdot 2}$
$= \boxed{5\sqrt{6}}$

3.)

30°

$9\sqrt{3}$   x

y  18

9 cm   60°

4.)

60°      12 cm

6  x

30°

y  $6\sqrt{3}$