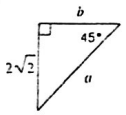
Kuta Software - Infinite Geometry

Name_____

Special Right Triangles

Date_____ Period____

Find the missing side lengths. Leave your answers as radicals in simplest form.

1) 

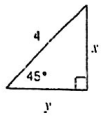
$b = 2\sqrt{2}$

$a = \text{leg} \cdot \sqrt{2}$

$2\sqrt{2} \cdot \sqrt{2}$

$2 \cdot 2$

$a = 4$

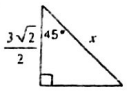
2) 

$\text{leg} = \frac{\text{hyp}}{2} \cdot \sqrt{2}$

$\frac{4}{2} \cdot \sqrt{2}$

$x = 2\sqrt{2}$

$y = 2\sqrt{2}$

3) 

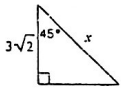
$\text{hyp} = \text{leg} \cdot \sqrt{2}$

$x = \frac{3\sqrt{2}}{2} \cdot \sqrt{2}$

$x = \frac{3 \cdot 2}{2} = \frac{6}{2}$

$x = 3$

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

4) 

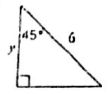
$\text{hyp} = \text{leg} \cdot \sqrt{2}$

$x = 3\sqrt{2} \cdot \sqrt{2}$

$3 \cdot 2$

$x = 6$

$y = 3\sqrt{2}$

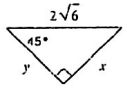
5) 

$\text{leg} = \frac{\text{hyp}}{2} \cdot \sqrt{2}$

$\frac{6}{2} \cdot \sqrt{2}$

$y = 3\sqrt{2}$

$x = 3\sqrt{2}$

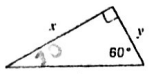
6) 

$\text{leg} = \frac{\text{hyp}}{2} \cdot \sqrt{2}$

$x = \frac{2\sqrt{6}}{2} \cdot \sqrt{2}$

$x = \sqrt{12} = 2\sqrt{3}$

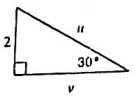
$x = 2\sqrt{3}$ $y = 2\sqrt{3}$

7) 

$y = \frac{1}{2}(16)$

$y = 8$

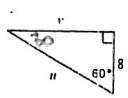
$x = 8\sqrt{3}$

8) 

$u = 2 \cdot 2$

$u = 4$

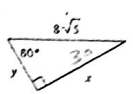
$v = 2\sqrt{3}$

9) 

$u = 2 \cdot 8$

$u = 16$

$v = 8\sqrt{3}$

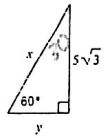
10) 

$y = \frac{8\sqrt{3}}{2}$

$y = 4\sqrt{3}$

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

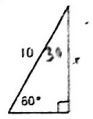
$x = 4\sqrt{15}$

11) 

$y = \frac{5\sqrt{3}}{3} \cdot \sqrt{3}$

$y = \frac{5 \cdot 3}{3} = \frac{15}{3} = 5$

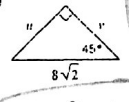
$y = 5$ $x = 10$

12) 

$y = \frac{10}{2} = 5$

$y = 5$

$x = 5\sqrt{3}$

13) 

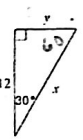
$\text{leg} = \frac{\text{hyp}}{2} \sqrt{2}$

$u = 8$ $v = 8$

$= \frac{8\sqrt{2}}{2} \cdot \sqrt{2}$

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

$= 8$

14) 

$y = \frac{11}{3} \cdot \sqrt{3}$

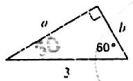
$= \frac{12}{3} \cdot \sqrt{3}$

$y = 4\sqrt{3}$

$x = 4\sqrt{3} \cdot 2$

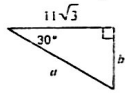
$x = 8\sqrt{3}$

9

15) 

$b = \frac{3}{2}$

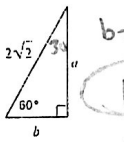
$a = \frac{3}{2}\sqrt{3}$

16) 

$b = \frac{11\sqrt{3}}{3}\sqrt{3}$

$\frac{11 \cdot 3}{3} = \frac{33}{3} = 11$

$a = 22$ $b = 11$

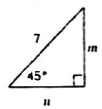
17) 

$b = \frac{2\sqrt{2}}{2}$

$b = \sqrt{2}$

$a = \sqrt{2} \cdot \sqrt{3}$

$a = \sqrt{6}$

18) 

$\text{leg} = \frac{\text{hyp}}{2}\sqrt{2}$

$m = \frac{7}{2}\sqrt{2}$

$n = \frac{7}{2}\sqrt{2}$