

7.3 Practice Problems

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

1)  $y=8$

$\frac{8}{1} = \frac{x}{\sqrt{2}}$   
 $8\sqrt{2} = x$

2)

$\frac{9}{1} = \frac{7}{\sqrt{2}}$   
 $a = \frac{7\sqrt{2}}{\sqrt{2}\sqrt{2}}$   
 $a = \frac{7\sqrt{2}}{2} = b$

3)

$\frac{6\sqrt{2}}{\sqrt{2}} = \frac{x}{1}$   
 $6 = x = y$

4)

$6(\sqrt{2}) = x$   
 $6\sqrt{2} = x$

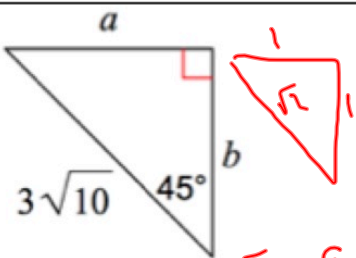
5)

$\frac{6}{2} = \frac{v}{\sqrt{3}}$   
 $3 = \frac{v}{\sqrt{3}}$   
 $3\sqrt{3} = v$   
 $\frac{6}{2} = \frac{v}{1}$   
 $3 = v$

6)

$2\sqrt{2}(\sqrt{2}) = x$   
 $2\sqrt{4} = x$   
 $2 \cdot 2 = x$   
 $4 = x$   
 $y = 2\sqrt{2}$

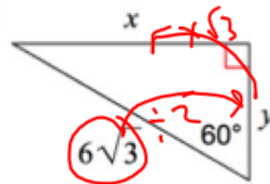
7)



$$\frac{3\sqrt{10}}{\sqrt{2}} = \frac{a}{1}$$

$$\boxed{3\sqrt{5} = a = b}$$

8)



$$\frac{6\sqrt{3}}{2} = y$$

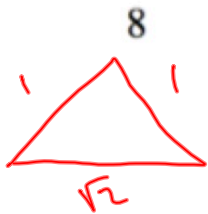
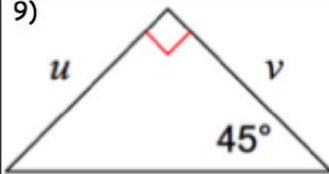
$$\boxed{3\sqrt{3} = y}$$

$$3\sqrt{3}(\sqrt{3}) = x$$

$$3\sqrt{9} = x$$

$$3 \cdot 3 = \boxed{x = 9}$$

9)



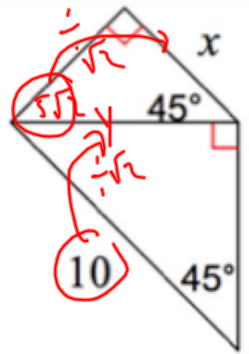
$$\frac{8}{\sqrt{2}} = \frac{v}{1}$$

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

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

$$\boxed{4\sqrt{2} = v = u}$$

10)



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

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

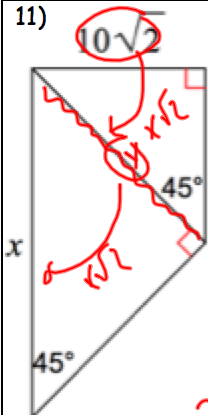
$$\frac{10\sqrt{2}}{2} = y$$

$$5\sqrt{2} = y$$

$$\frac{5\sqrt{2}}{\sqrt{2}} = x$$

$$\boxed{5 = x}$$

11)



$$10\sqrt{2}(\sqrt{2}) = y$$

$$10\sqrt{4} = y$$

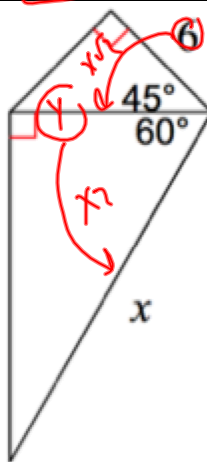
$$10 \cdot 2 = y$$

$$20 = y$$

$$20(\sqrt{2}) = x$$

$$\boxed{20\sqrt{2} = x}$$

12)



$$6(\sqrt{2}) = y$$

$$6\sqrt{2} = y$$

$$6\sqrt{2}(\sqrt{2}) = x$$

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