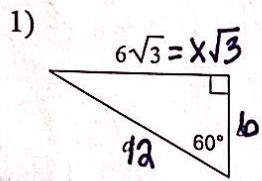


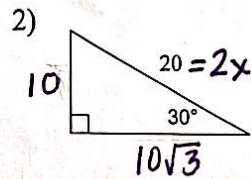
Special Right Triangles Review (Tiered)

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



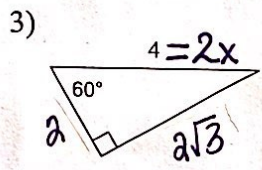
$$\frac{6\sqrt{3}}{\sqrt{3}} = \frac{x\sqrt{3}}{\sqrt{3}}$$

$$x = 6$$



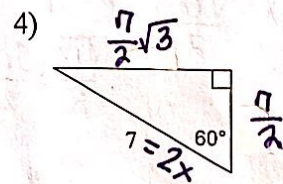
$$20 = 2x$$

$$x = 10$$



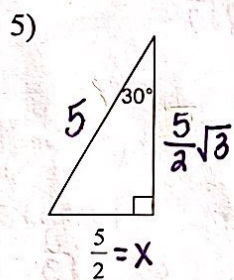
$$4 = 2x$$

$$x = 2$$

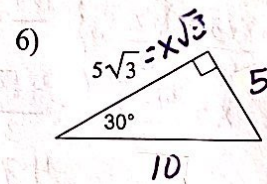


$$7 = 2x$$

$$x = \frac{7}{2}$$

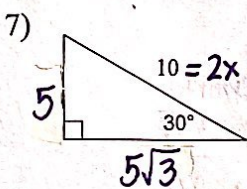


$$2\left(\frac{5}{2}\right) = 5$$



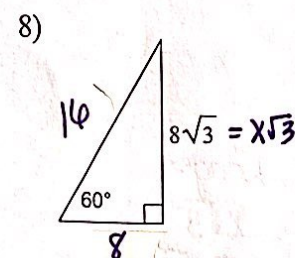
$$\frac{5\sqrt{3}}{\sqrt{3}} = \frac{x\sqrt{3}}{\sqrt{3}}$$

$$x = 5$$



$$10 = 2x$$

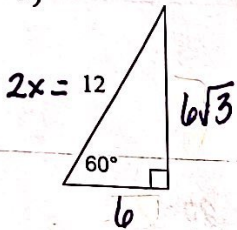
$$x = 5$$



$$\frac{8\sqrt{3}}{\sqrt{3}} = \frac{x\sqrt{3}}{\sqrt{3}}$$

$$x = 8$$

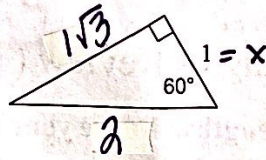
9)



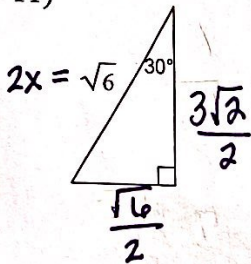
$$2x = 12$$

$$x = 6$$

10)



11)



Shorter Longer

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

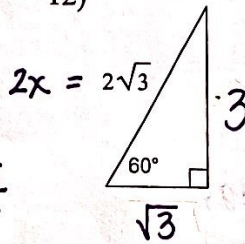
$$x = \frac{\sqrt{6}}{2}$$

$$x\sqrt{3}$$

$$\frac{\sqrt{6} \cdot \sqrt{3}}{2 \cdot 1}$$

$$\frac{\sqrt{18} = 3\sqrt{2}}{2}$$

12)



Shorter Longer

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

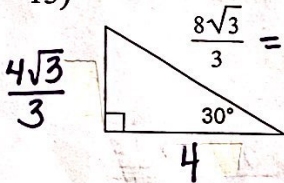
$$x = \sqrt{3}$$

$$x\sqrt{3}$$

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

$$3$$

13)



Shorter

$$\frac{8\sqrt{3}}{3} = 2x \cdot 3$$

$$\frac{8\sqrt{3}}{6} = \frac{6x}{6}$$

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

Longer

$$x\sqrt{3}$$

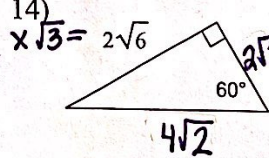
$$\frac{4\sqrt{3} \cdot \sqrt{3}}{3 \cdot 1}$$

$$\frac{4\sqrt{9}}{3}$$

$$\frac{4 \cdot 3}{3}$$

$$4$$

14)

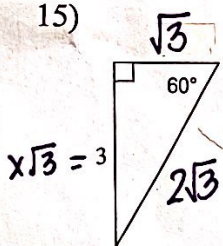


Shorter

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

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

15)

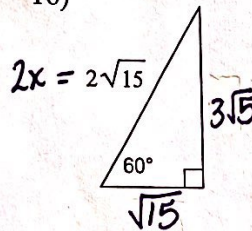


Shorter

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

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

16)



Shorter

$$\frac{2x = 2\sqrt{15}}{2}$$

$$x = \sqrt{15}$$

Longer

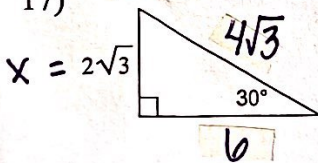
$$x\sqrt{3}$$

$$\frac{\sqrt{15} \cdot \sqrt{3}}{3}$$

$$\frac{\sqrt{45}}{3}$$

$$3\sqrt{5}$$

17)



Longer

$$x\sqrt{3}$$

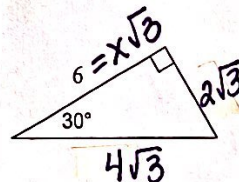
$$2\sqrt{3} \cdot \sqrt{3}$$

$$2\sqrt{9}$$

$$2 \cdot 3$$

$$6$$

18)



Shorter

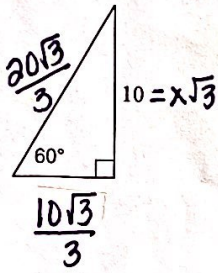
$$\frac{6 = x\sqrt{3}}{\sqrt{3}}$$

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

$$x = \frac{6\sqrt{3}}{3}$$

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

19)



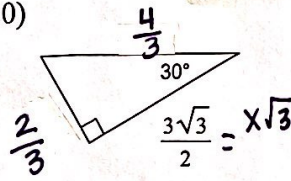
Shorter

$$10 = \frac{x\sqrt{3}}{\frac{1}{\sqrt{3}}}$$

$$x = \frac{10\sqrt{3}}{\sqrt{3}}$$

$$x = \frac{10\sqrt{3}}{3}$$

20)



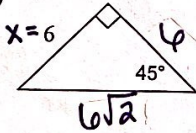
$$a \cdot \frac{3\sqrt{3}}{2} = x\sqrt{3}$$

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

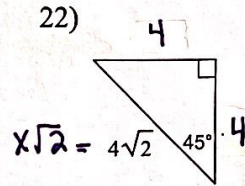
$$3 = 2x$$

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

21)



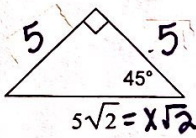
22)



$$\frac{x\sqrt{2}}{\sqrt{2}} = \frac{4\sqrt{2}}{\sqrt{2}}$$

$$x = 4$$

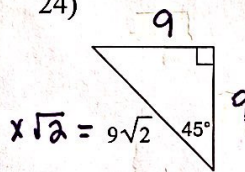
23)



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

$$x = 5$$

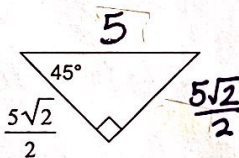
24)



$$\frac{x\sqrt{2}}{\sqrt{2}} = \frac{9\sqrt{2}}{\sqrt{2}}$$

$$x = 9$$

25)



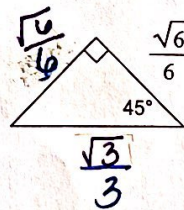
Hyp

$$\frac{x\sqrt{2}}{\sqrt{2}} = \frac{5}{1}$$

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

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

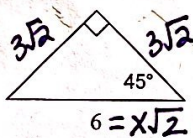
26)



Hyp

$$\frac{\sqrt{6}}{6} \cdot \frac{\sqrt{2}}{1} = \frac{\sqrt{12}}{6} = \frac{2\sqrt{3}}{6} = \frac{\sqrt{3}}{3}$$

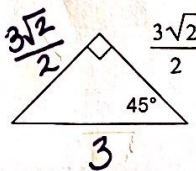
27)



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

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

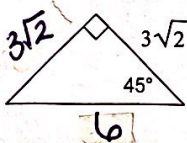
28)



Hyp

$$\frac{3\sqrt{2}}{2} \cdot \frac{\sqrt{2}}{1} = \frac{3\sqrt{4}}{2} = \frac{3 \cdot 2}{2} = 3$$

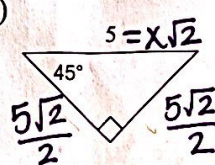
29)



Hyp

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

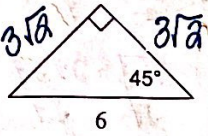
30)



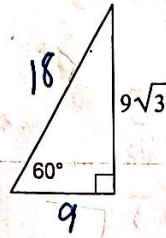
$$\frac{5}{\sqrt{2}} = \frac{x\sqrt{2}}{\sqrt{2}}$$

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

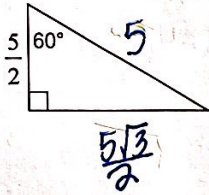
31)



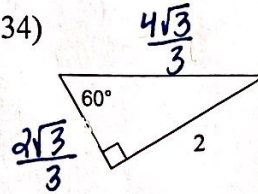
32)



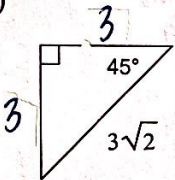
33)



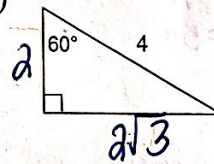
34)



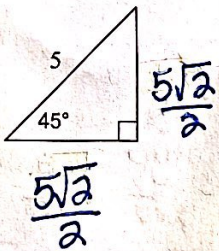
35)



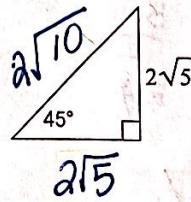
36)



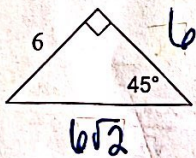
37)



38)



39)



40)

