

Special Right Triangles and Trig Worksheet  
Module 3, Unit 6, Lesson 1

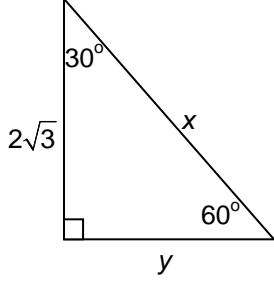
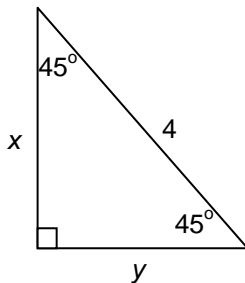
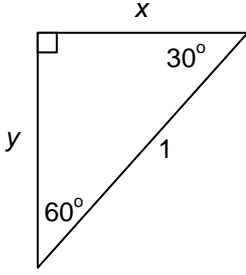
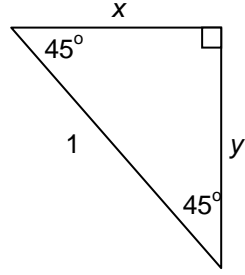
Simplify by rationalizing the denominator.

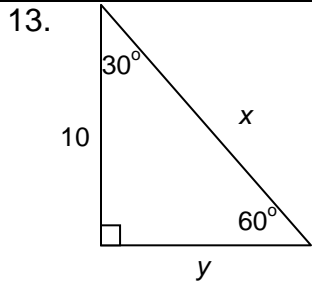
1. $\frac{7}{\sqrt{3}} =$	2. $\frac{15}{\sqrt{2}} =$	3. $\frac{15}{\sqrt{5}} =$	4. $\frac{7}{\sqrt{7}} =$
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Simplify. Leave your answer in simplified radical form.

5. $\frac{2}{5} \div \frac{\sqrt{21}}{5} =$	6. $\frac{\sqrt{3}}{2} \div \frac{1}{2} =$	7. $\frac{1}{\frac{\sqrt{2}}{2}} =$	8. $\frac{\frac{2}{3}}{\frac{\sqrt{5}}{3}} =$
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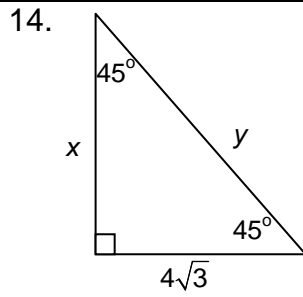
Use the Special Right Triangles to solve for x and y.

<p>9.</p>  <p>x = _____</p> <p>y = _____</p>	<p>10.</p>  <p>x = _____</p> <p>y = _____</p>
<p>11.</p>  <p>x = _____</p> <p>y = _____</p>	<p>12.</p>  <p>x = _____</p> <p>y = _____</p>



$x =$  \_\_\_\_\_

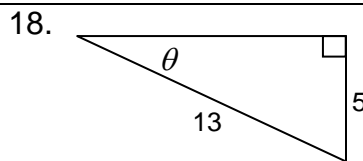
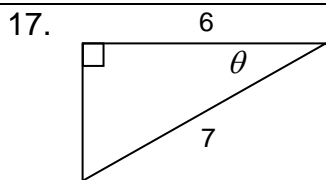
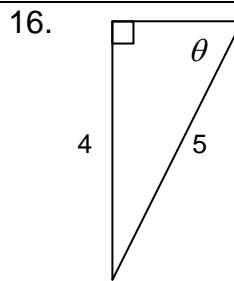
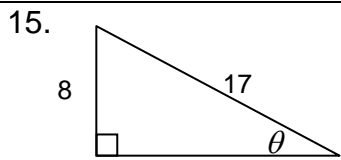
$y =$  \_\_\_\_\_



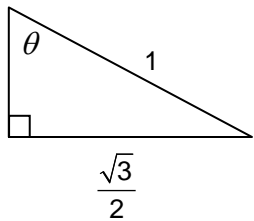
$x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

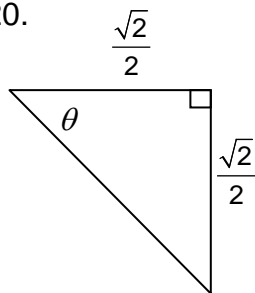
Find the value of each of the six trigonometric functions of  $\theta$ .



19.



20.



1.  $\frac{7\sqrt{3}}{3}$

2.  $\frac{15\sqrt{2}}{2}$

3.  $3\sqrt{5}$

4.  $\sqrt{7}$

5.  $\frac{2\sqrt{21}}{21}$

6.  $\sqrt{3}$

7.  $\sqrt{2}$

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

9.  $x = 4; y = 2$

10.  $x = 2\sqrt{2}; y = 2\sqrt{2}$

11.  $x = \frac{\sqrt{3}}{2}; y = \frac{1}{2}$

12.  $x = \frac{\sqrt{2}}{2}; y = \frac{\sqrt{2}}{2}$

13.  $x = \frac{20\sqrt{3}}{3}; y = \frac{10\sqrt{3}}{3}$

14.  $x = 4\sqrt{3}; y = 4\sqrt{6}$

15.  $\sin \theta = \frac{8}{17}$        $\csc \theta = \frac{17}{8}$

$\cos \theta = \frac{15}{17}$        $\sec \theta = \frac{17}{15}$

$\tan \theta = \frac{8}{15}$        $\cot \theta = \frac{15}{8}$

16.  $\sin \theta = \frac{4}{5}$        $\csc \theta = \frac{5}{4}$

$\cos \theta = \frac{3}{5}$        $\sec \theta = \frac{5}{3}$

$\tan \theta = \frac{4}{3}$        $\cot \theta = \frac{3}{4}$

$$17. \sin \theta = \frac{\sqrt{13}}{7} \quad \csc \theta = \frac{7\sqrt{13}}{13}$$

$$\cos \theta = \frac{6}{7} \quad \sec \theta = \frac{7}{6}$$

$$\tan \theta = \frac{\sqrt{13}}{6} \quad \cot \theta = \frac{6\sqrt{13}}{13}$$

$$18. \sin \theta = \frac{5}{13} \quad \csc \theta = \frac{13}{5}$$

$$\cos \theta = \frac{12}{13} \quad \sec \theta = \frac{13}{12}$$

$$\tan \theta = \frac{5}{12} \quad \cot \theta = \frac{12}{5}$$

$$19. \sin \theta = \frac{\sqrt{3}}{2} \quad \csc \theta = \frac{2\sqrt{3}}{3}$$

$$\cos \theta = \frac{1}{2} \quad \sec \theta = 2$$

$$\tan \theta = \sqrt{3} \quad \cot \theta = \frac{\sqrt{3}}{3}$$

$$20. \sin \theta = \frac{\sqrt{2}}{2} \quad \csc \theta = \sqrt{2}$$

$$\cos \theta = \frac{\sqrt{2}}{2} \quad \sec \theta = \frac{17}{15}$$

$$\tan \theta = 1 \quad \cot \theta = 1$$