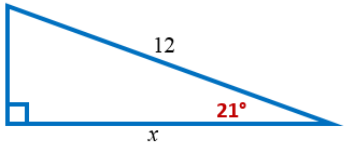
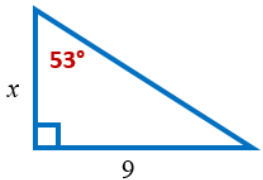
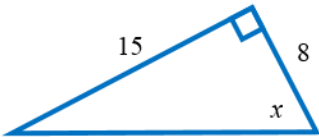
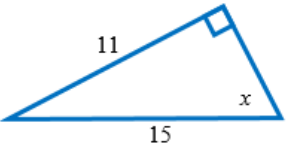
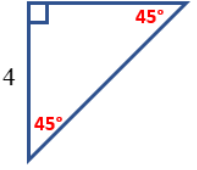
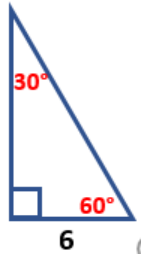
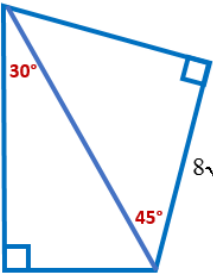
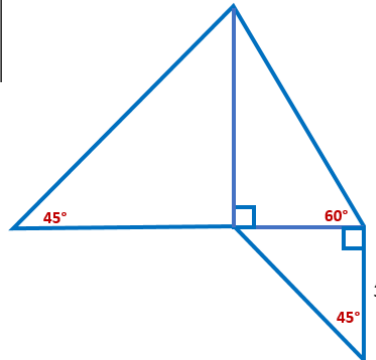


Use trigonometry to solve for each variable. Show the equation used to find the answers.

<p>1)</p> 	<p>2)</p> 	<p>3)</p> 
<p>4)</p> 	<p>5) A ladder leaning against a house forms a 67° angle with the ground. If the bottom of the ladder is 4 feet from the house, how long is the ladder?</p>	

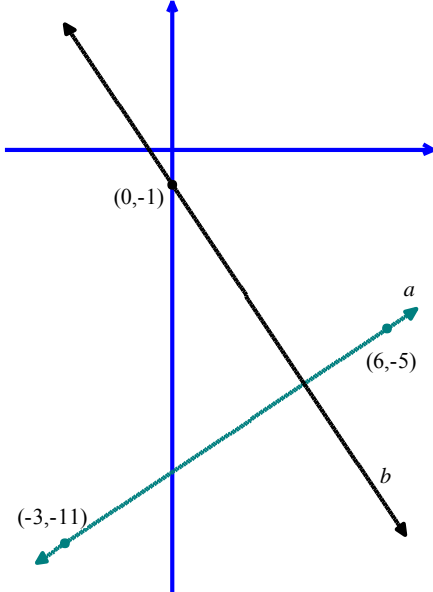
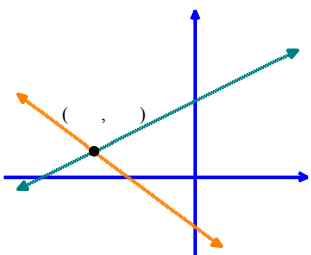
Answers: 51.23, 6.78, 10.24, 47.2, 61.9, 11.20, 13.67

Use special right triangles to find the missing side on each triangle.

<p>6)</p> 	<p>7)</p> 	<p>8)</p> 	<p>9)</p> 
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Answers: 4, 5, 6, 8, 10, 12, 16 $4\sqrt{2}$, $5\sqrt{2}$, $6\sqrt{2}$, $8\sqrt{2}$ $5\sqrt{3}$, $5\sqrt{3}$, $6\sqrt{3}$, $8\sqrt{3}$, $5\sqrt{6}$

Linear Functions:

<p>10) Use the graph at right.</p> <p>a) Find the slope of line a.</p> <p>b) Find the equation of line a.</p> <p>c) Line a is perpendicular to line b. Find the equation of line b.</p>		<p>11) Solve the system:</p> $\begin{cases} y = \frac{1}{2}x + 3 \\ 3x + 4y = -8 \end{cases}$ 
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12) Graph the following

lines. Plot at least 5 points.

a) $y = 3x - 2$

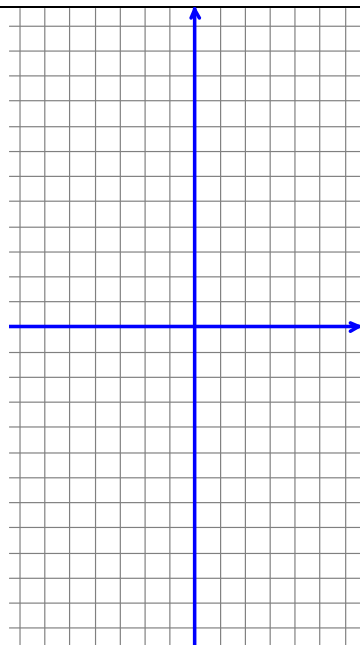
b) $y = \frac{-1}{2}x + 4$

c) $x = -3$

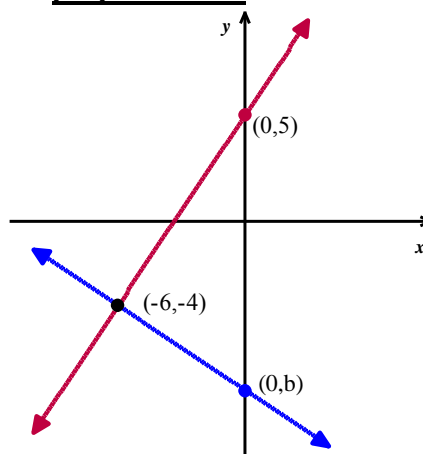
d) $y = 8$

e) $-5x - 2y = 12$

f) $y + 8 = \frac{2}{3}(x - 3)$



13) **Challenge:** The two lines shown are **perpendicular**. Find the value of b



Factor each expression: Use scratch paper if necessary.

14) $x^2 + 10x + 25$

15) $x^2 - 10x + 25$

16) $x^2 - 25$

17) $5x + 25$

18) $x^2 - 5x$

Simplify each expression: Factor and cancel common factors.

19) $\frac{x^2 + 10x + 25}{5x + 25}$

20) $\frac{x^2 - 10x + 25}{x^2 - 25}$

21) $\frac{x^2 - 25}{x^2 - 5x}$

22) $\frac{5x - 25}{x^2 - 10x + 25}$

23) $\frac{x^2 - 5x}{5x}$

Simplify each expression:

24) $\left(\frac{-1}{2}\right)^2 + \left(\frac{\sqrt{5}}{2}\right)^2$

25) $3\left(\frac{\sqrt{2}}{5}\right) + 7\left(\frac{\sqrt{2}}{5}\right)$

26) $5\sqrt{18} - 2\sqrt{8}$

27) $5\sqrt{6} \cdot 3\sqrt{2} + \sqrt{3}$

28) $\left(\frac{8}{3} - 3\right)^3$

29) $\frac{2}{3}(5)^2 - \frac{1}{6}$

30) $\left(\frac{1}{2}\right)^3 - \frac{3}{4}$

31) $5\left(\frac{1}{3}\right) - 7\left(\frac{5}{6}\right)$

Answers: $\frac{-1}{27}, \frac{3}{2}, \frac{-5}{8}, 11\sqrt{2}, 12\sqrt{3}, \frac{-25}{6}, 31\sqrt{3}, 2\sqrt{2}, \frac{33}{2}, \frac{5}{2}$