

**Prerequisites****LEARNING PLAN**

## (Chapter 1)

Skill/Understanding:	Review/Practice Problems
<b>Function Notation</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> I can evaluate <math>f(x)</math> when given <math>x</math>.</li> <li><input type="checkbox"/> I can solve for <math>x</math> when given a value for <math>f(x)</math>.</li> <li><input type="checkbox"/> I can use function notation to express inputs and outputs of a function.</li> <li><input type="checkbox"/> I can complete operations with functions, including a composition of functions.</li> </ul>	<u>1-5, 1-15, 1-16, 1-24, 1-46, 1-56, 1-69, 1-85, 1-114, 1-138, and CL 1-140.</u>
<b>Expressions</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> I can simplify expressions with exponents.</li> <li><input type="checkbox"/> I can simplify expressions with radicals.</li> <li><input type="checkbox"/> I can factor expressions.</li> <li><input type="checkbox"/> I can identify equivalent expressions by simplifying.</li> </ul>	<u>1-12, 1-13, 1-57, 1-87, 1-115, CL 1-141, 1-27, 1-48, 1-72, 1-101, 1-136, CL 1-142, 1-26, 1-58, 1-89, 1-127, and CL 1-143.</u>
<b>Equations</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> I can solve linear equations.</li> <li><input type="checkbox"/> I can solve quadratic equations.</li> <li><input type="checkbox"/> I can solve for the indicated variable.</li> </ul>	<u>1-23, 1-38, 1-50, 1-70, 1-90, 1-116, and CL 1-145.</u>
<b>Trigonometry</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> I can apply basic trigonometry to right triangles (sine, cosine, tangent, pythagorean theorem).</li> <li><input type="checkbox"/> I can complete problems involving special right triangles</li> </ul>	<u>1-14, 1-39, 1-88, 1-125, CL 1-146, 1-25, 1-49, 1-73, 1-117, and CL 1-146.</u>

## Practice Problems:

1) Let  $g(x) = x^2 - 2x$ , Evaluate:

a.  $g(t - 1)$

b.  $g(4)$

c.  $g(x) = 3$

2) Given  $f(x) = x^2 + 1$ ,  $g(x) = 2x - 8$ , and  $h(x) = \frac{1}{2}x + 1$ . Write an equation for each of the following operations.

a.  $f(x) + g(x)$

b.  $g(x)h(x)$

c.  $g(h(x)) = h(g(x))$

3) Identify the equivalent expressions:

a.  $5(5^x)$

b.  $25^x$

c.  $5^{(x+1)}$

d.  $5^{2x}$

e.  $5^x + 5$

f.  $5^x \cdot 5^x$

**PRACTICE PROBLEMS:**

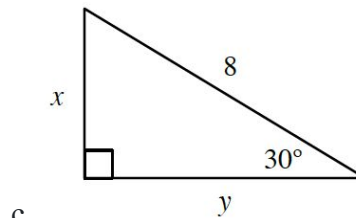
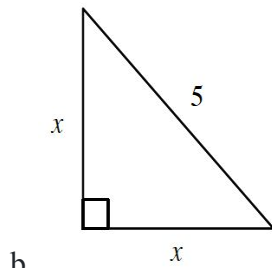
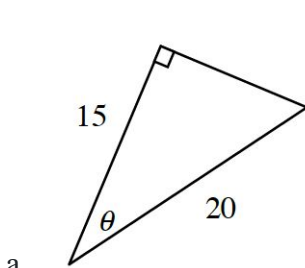
4) Simplify:

a.  $\sqrt{2} \cdot \sqrt{3}$       b.  $\sqrt{24}$       c.  $\frac{3}{\sqrt{2}}$

5) Factor each expression.

a.  $7x^2 + 56x$       b.  $x^2 - x - 72$       c.  $x^2 - 8x + 16$       d.  $x^2 - 49$

6) Solve for the variable(s) in each triangle below.



7) Solve for x:

a.  $2y + 3(x + 2) = 6(y - 5)$       b.  $5x^2 = 15x$       c.  $\frac{6y+1}{x} = 6$       d.  $2(x - 6)^2 + 5 = 23$

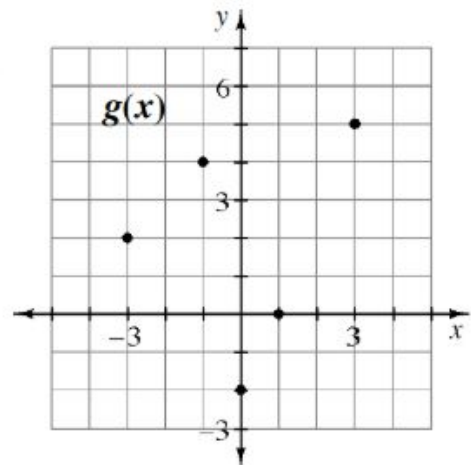
8) Solve for y:  $5x + 2y = ky + 9$

9)

Three different functions are represented below in three different representations. Use these functions to evaluate each composition.

$f(x) = 2x - 9$

$x$	-7	0	2	4	8
$h(x)$	3	11	-1	0	5



Evaluate:

a.  $f(h(8))$       b.  $h(g(-3))$       c.  $g(f(6))$       d.  $h(h(4))$