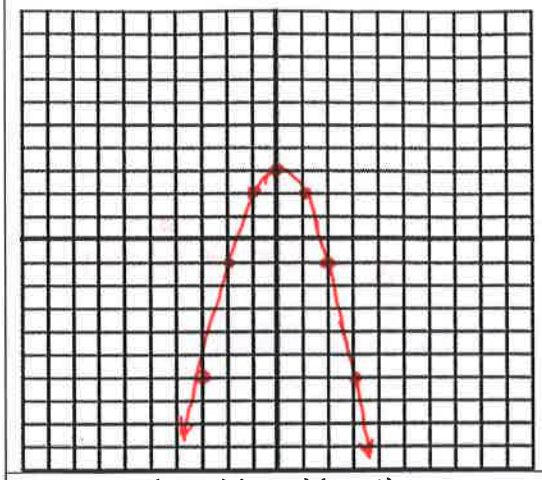
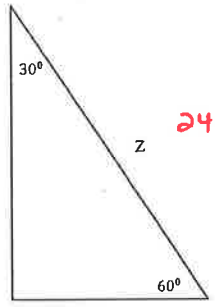
Algebra 2 Basic Skills Quiz Practice (Qtr2) Name _____ Period _____

Calculators are NOT allowed on these quizzes. This is practice for the quiz.

1. Accurately graph $y = -x^2 + 3$.



2. Solve the triangle when $z = 24$.



$12\sqrt{3}$
x
y
12

2. Multiply $(x + 1)(x - 7)(x - 3)$

$(x^2 - 6x - 7)(x - 3)$

$x^3 - 3x^2 - 6x^2 + 18x - 7x + 21$

$x^3 - 9x^2 + 11x + 21$

4. Factor $3x^2 - 10x - 8$.

$(3x + 2)(x - 4)$

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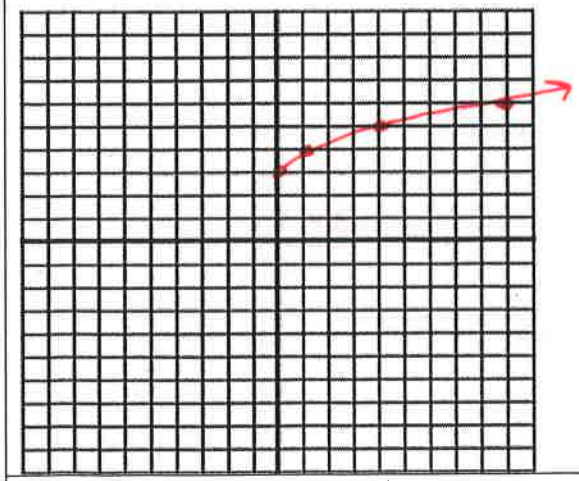
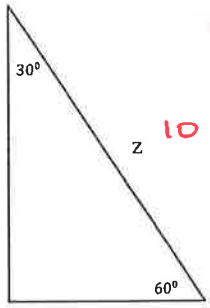


2. Solve the triangle when $y = 5$.



$5\sqrt{3}$
x
y
5

2. Multiply $(x - 1)(x - 4)(x + 6)$

$(x^2 - 5x + 4)(x + 6)$

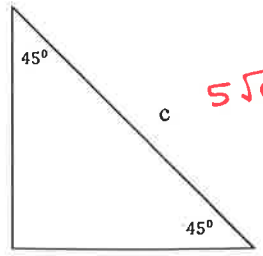
$x^3 + 6x^2 - 5x^2 - 30x + 4x + 24$

$x^3 + x^2 - 26x + 24$

4. Factor $2x^2 + 5x - 12$.

$(2x - 3)(x + 4)$

7. Solve the triangle when $b = 5\sqrt{3}$.



$5\sqrt{3}$ $5\sqrt{6}$ $5\sqrt{3}$

8. Determine the equation of the inverse of the given function. Finalize your answer by solving for y.

$$f(x) = \sqrt{x-4} + 2$$

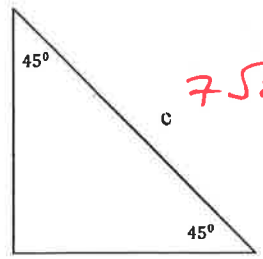
$y = (x-2)^2 + 4$

7. Solve $x^2 - 8x = 20$ by either factoring and zpp, completing the square and solving, or the quadratic formula.

$x = 10, -2$

8. Solve $x^2 - 8x = 20$ using another technique.

7. Solve the triangle when $c = 7\sqrt{2}$.



$7\sqrt{2}$ 7 7

8. Determine the equation of the inverse of the given function. Finalize your answer by solving for y.

$$f(x) = \frac{4}{3}x - 2$$

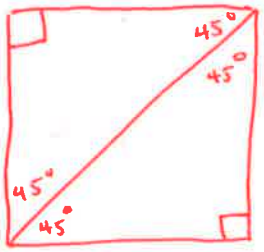
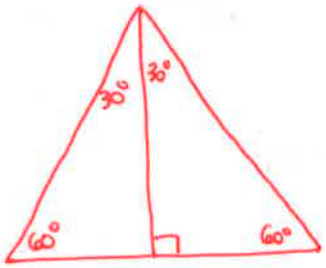
$y = \frac{3x+6}{4}$

7. Solve $x^2 - 10x = -24$ by either factoring and zpp, completing the square and solving, or the quadratic formula.

$x = 6, 4$

8. Solve $x^2 - 10x = -24$ using another technique.

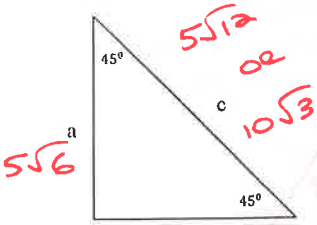
Solving Special Right Triangles

Draw an accurate square (take your time), and then draw a single segment that splits this square into two equal triangles.	Draw an accurate equilateral triangle (again, take your time), and then draw a single segment that splits this equilateral triangle into two equal triangles.
	
The two triangles above are called isosceles right triangles or 45-45-90 triangles. Do you see why? Please explain.	The triangles above are called 30-60-90 triangles. Do you see why? Please explain.

Solving Special Right Triangles

Draw an accurate square (take your time), and then draw a single segment that splits this square into two equal triangles.	Draw an accurate equilateral triangle (again, take your time), and then draw a single segment that splits this equilateral triangle into two equal triangles.
The two triangles above are called isosceles right triangles or 45-45-90 triangles. Do you see why? Please explain.	The triangles above are called 30-60-90 triangles. Do you see why? Please explain.

a. $b = 5\sqrt{6}$

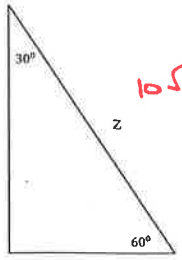


$5\sqrt{12}$ or $10\sqrt{3}$

$5\sqrt{6}$

$5\sqrt{6}$

b. $y = 5\sqrt{3}$

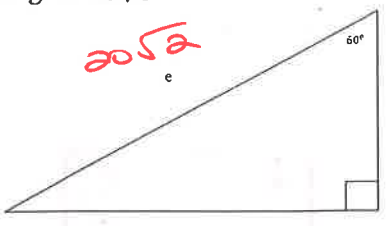


$5\sqrt{9}$ or 1.5

$10\sqrt{3}$

$5\sqrt{3}$

c. $g = 10\sqrt{6}$

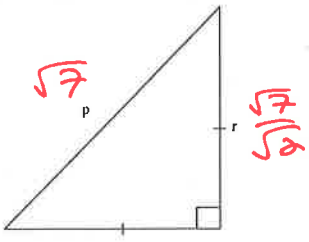


$20\sqrt{2}$

$\frac{10\sqrt{6}}{\sqrt{3}}$ or $10\sqrt{2}$

$10\sqrt{6}$

d. $p = \sqrt{7}$

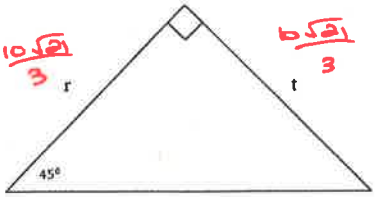


$\sqrt{7}$

$\frac{\sqrt{7}}{\sqrt{2}}$

$\frac{\sqrt{7}}{\sqrt{2}}$

e. $r = \frac{10\sqrt{21}}{3}$

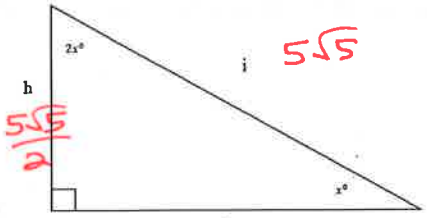


$\frac{10\sqrt{21}}{3}$

$\frac{6\sqrt{21}}{3}$

$\frac{10\sqrt{42}}{3}$

f. $i = 5\sqrt{5}$



$5\sqrt{5}$

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

$\frac{5\sqrt{15}}{2}$

a. $b = 5\sqrt{6}$

b. $y = 5\sqrt{3}$

c. $g = 10\sqrt{6}$

d. $p = \sqrt{7}$

e. $r = \frac{10\sqrt{21}}{3}$

f. $i = 5\sqrt{5}$