

BHS Geometry Summer Assignment

Name: _____

1. Simplify each Expression

Integers: <http://www.virtualnerd.com/middle-math/number-algebraic-sense/order-operations/simplify-expression-order-operations>

Fractions: <https://www.youtube.com/watch?v=-YMu5nFvzc>
<https://www.youtube.com/watch?v=Znm2F09whmY>

a) $5 + (-9) - 8 + (-4)$	b) $-7 - -6$	c) $23 + 2(-9 - 7)$
d) $(-5)(3)(-1)(-4)$	e) $-6^2 - 4(-3)^2$	f) $7^2 - 8(2 - 9)$
g) $\frac{3}{4} + \frac{5}{6} - \frac{2}{3}$	h) $2\frac{1}{5} - 4\frac{1}{3}$	i) $\frac{1}{4} * \frac{4}{5}$
Evaluate each of the following if $x = -5$, $y = 2$, and $z = -3$		
j) $xy - z$	k) $x^2y + z^3$	

2. Equivalent Fraction, Decimal and Percent: Complete each Table

[http://www.epcc.edu/OfficeofStudentSuccess/tutorialservices/tutorialsupportservicesMDP/Documents/Basic%20Math%20Handouts%20\(PDF\)/Math%20Handout%20\(Basic\)%20Converting%20Fractions,%20Decimals,%20Percents.pdf](http://www.epcc.edu/OfficeofStudentSuccess/tutorialservices/tutorialsupportservicesMDP/Documents/Basic%20Math%20Handouts%20(PDF)/Math%20Handout%20(Basic)%20Converting%20Fractions,%20Decimals,%20Percents.pdf)

Fraction	Decimal	Percent
$\frac{4}{5}$		
	1.05	
		8%

Fraction	Decimal	Percent
	0.015	
$1\frac{7}{8}$		
$\frac{2}{3}$		

3. Solve each Equation

Quadratic Equations: <https://www.khanacademy.org/math/algebra/quadratics/quadratics-square-root/v/simple-quadratic-equation>

Variables on both Sides: <https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-variables-on-both-sides/v/solving-equations-2>

Two step Equations: <https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations/v/why-we-do-the-same-thing-to-both-sides-two-step-equations>

a) $2x - 16 = 8$	b) $7x + 9 = 13x - 27$
c) $-8w + 34 = 5w - 18$	d) $\frac{1}{2}(8x + 14) = 59$
e) $3^2 + x^2 = 5^2$	h) $5y^2 + 18 = 63$

3. Solve Each Proportion

<https://www.khanacademy.org/math/algebra-basics/core-algebra-linear-equations-inequalities/ratios-core-algebra/v/proportions-2-exercise-examples>

a) $\frac{5x}{7} = \frac{8}{9}$	b) $\frac{x-2}{4} = \frac{x+3}{6}$
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4. Simplify each Expression

Like terms and Distributive Property: <https://www.khanacademy.org/math/algebra-basics/core-algebra-expressions/core-algebra-manipulating-expressions/v/combining-like-terms-and-the-distributive-property>

Radicals: <https://www.khanacademy.org/math/algebra-basics/core-algebra-foundations/square-roots-for-college/v/understanding-square-roots>

Exponent Rules: <https://www.khanacademy.org/math/algebra-basics/core-algebra-exponent-expressions/core-algebra-exponent-properties/v/exponent-properties-4>

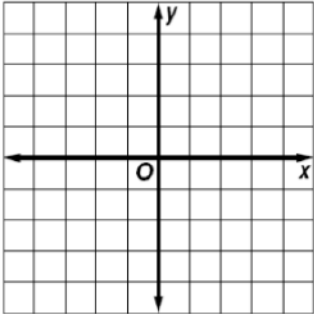
$3\sqrt{12}$	$\sqrt{\frac{36}{25}}$	$\left(\frac{10m^2n^3}{5m^6n}\right)^0$
$(x-7)(x+7)$	$(x+3)^2$	$(4a^2bc)(-2b^3c^2)$
$4ab(3a^2-7b)$	$\frac{15x^4y^2z^5}{3x^2z^3}$	$(2a^2b)^3$

9. Solve each System of Equations

Elimination: <https://www.youtube.com/watch?v=K9IG-aCHCSE>

Substitution: https://www.youtube.com/watch?v=cwHR_B9zK7k

a) $y = 6x$ $2x + 3y = -20$	b) $2x - 4y = -22$ $2x + 2y = 20$
c) Solve the system by graphing $y = -3$ $2x - y = 1$	

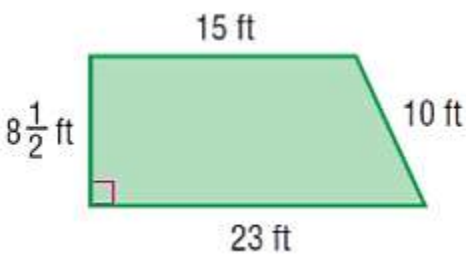
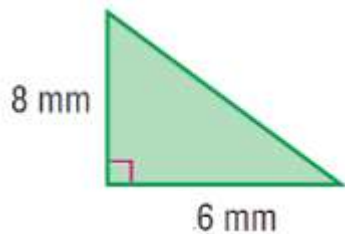
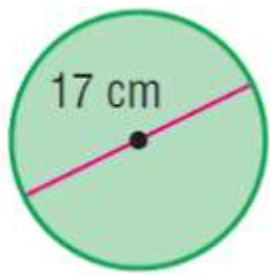
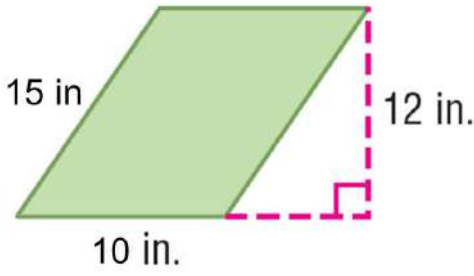


5. Area & Perimeter

Find the area and perimeter for each shape. Label ALL units properly!

(leave answers for circles in terms of π or rounded to the nearest hundredths)

<https://www.khanacademy.org/math/geometry/hs-geo-foundations/hs-geo-area/v/perimeter-and-area-basics>

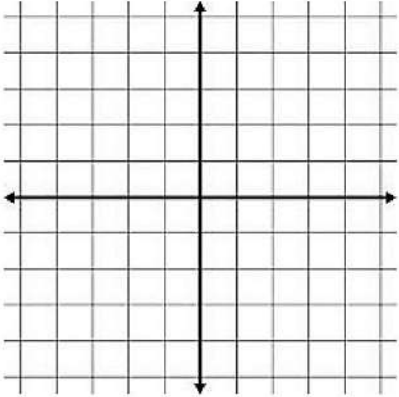
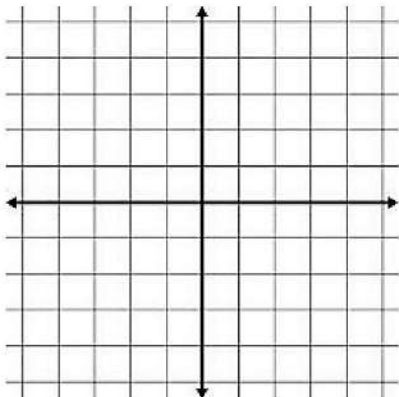
Area of a triangle $A = \frac{1}{2}bh$	Area of a parallelogram $A = bh$	Area of a trapezoid $A = \frac{1}{2}h(b_1 + b_2)$	Area of a circle $A = \pi r^2$
a) 	b) 		
Area = Perimeter =	Area = Perimeter =		
c) 	d) 		
Area = Perimeter =	Area = Perimeter =		

6. Linear Equations

<https://www.khanacademy.org/math/algebra-basics/core-algebra-graphing-lines-slope/core-algebra-graphing-slope-intercept/v/graphing-a-line-in-slope-intercept-form>

<https://www.khanacademy.org/math/algebra/two-var-linear-equations/x-and-y-intercepts/v/x-and-y-intercepts>

Graph each line

a) $y = \frac{1}{2}x - 1$ 	b) $2x + 3y = 6$ 
List the slope and x and y-intercepts for the lines above.	
m = _____ y-intercept = _____ x-intercept = _____	m = _____ y-intercept = _____ x-intercept = _____

Find the slope of the line between the pair of points and write an equation for the line through them in point-slope form and slope-intercept form.

coordinates	$A(-4, 3) \quad B(2, -6)$
slope $\left(\frac{\Delta y}{\Delta x}\right)$	
point-slope form $y - y_1 = m(x - x_1)$	
slope-intercept form $y = mx + b$	