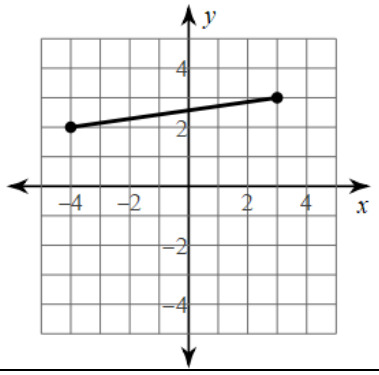
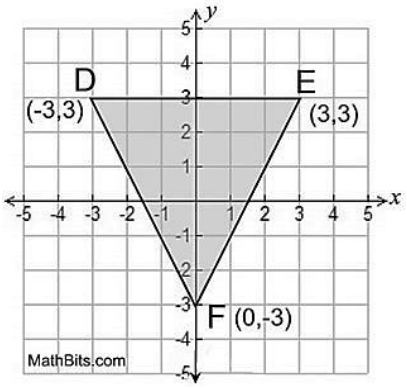
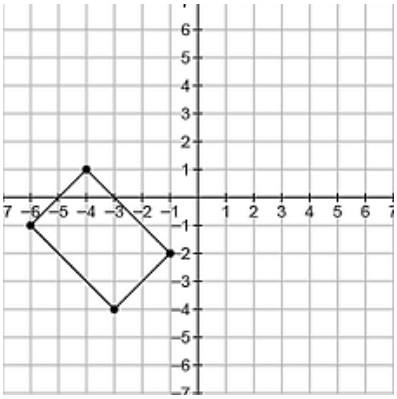
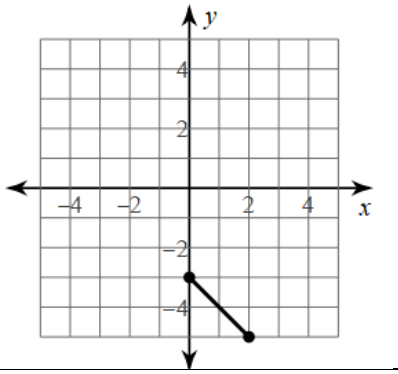
GSE Geometry **Unit 1A Review Sheet** Name: _____

Unit 1A: Characteristics & Properties of Angles

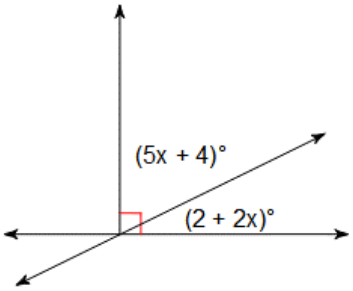
Topic: Vocabulary	**Things to Remember**: Difference between point, ray, line, line segment, etc.
Examples:	
1. Draw two figures that would be represented by $\overline{CD} \perp \overline{AB}$	2. Draw two figures that would be represented by $\overrightarrow{JT} \parallel \overrightarrow{PM}$
Topic: Distance, Perimeter, and Area	**Things to Remember**: ✓ $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ or $d = \sqrt{(vertical)^2 + (horiztonal)^2}$ ✓ Perimeter = sum of ALL sides of a figure ✓ Area: Rectangle = BH and triangle = ½ BH
3. Calculate the distance between the points below. Leave all answers in exact form (radicals). $A(3,-5)$ $B(7,-8)$	4. Find the distance between the two endpoints. 
5. Find the perimeter and area of the figure below. 	6. Find the perimeter and area of the figure below. 

Topic: Midpoint & Partitioning	**Things to Remember**: ✓ Midpoint = $\left(\frac{x_2+x_1}{2}, \frac{y_2+y_1}{2}\right)$ ✓ Partitioning = $\left(x_1 + \frac{a}{a+b}(x_2 - x_1)\ y_1 + \frac{a}{a+b}(y_2 - y_1)\right)$
7. Find the midpoint of the line segment below.  	8. Find the other endpoint of the line segment with the endpoint $(4, 2)$ and midpoint $(-2, 0)$.
9. Find the point P that partitions AB in a ratio 2:7 with $A(3, -10)$ and $B(21, 6)$.	10. Find the point P that partitions BA in a ratio 4:5 with $A(3, -10)$ and $B(21, 6)$.
Topic: Parallel & Perpendicular Lines	**Things to Remember**: ✓ Parallel slope = SAME slope ✓ Perpendicular slope = OPPOSITE RECIPROCAL slope ✓ Plug in (x, y) into the equation to FIND the NEW y-intercept (b)
11. Write the slope-intercept form of the line perpendicular to $y = 10x + 3$ through the point (-2, 3).	12. Write the slope-intercept form of the line parallel to $y = 10x + 3$ through the point (10, -3).
13. Write the slope-intercept form of the line parallel to x = 0 through the point (7, -4)	14. Write the slope-intercept form of the line perpendicular to x = 0 through the point (7, -4)

Topic: Angle Properties/Characteristics and Angle Pair Relationships	**Things to Remember**: ✓ To name an angle, the vertex letter MUST be in the MIDDLE ✓ Angle Addition Postulate (2 smaller angles = 1 bigger angle) ✓ Angle Bisector = cuts an angle into two equal parts ✓ Supplementary – Angles that add up to 180° (adjacent angles make straight lines) ✓ Complementary – Angles that add up to 90° (adjacent angles make corners) ✓ Vertical – Angles that are congruent ✓ (angles that are across from each other in two intersecting lines)

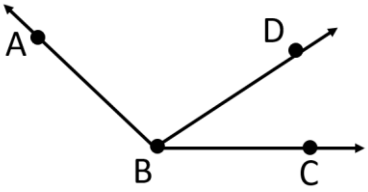
Examples:

15. Solve for x



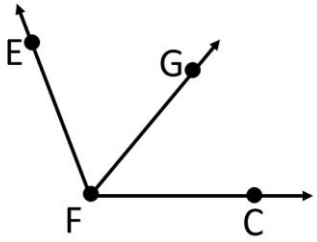
16. Solve for x.

$m\angle ABC = (3x + 5)°$
$m\angle ABD = 105°$
$m\angle DBC = (x - 2)°$



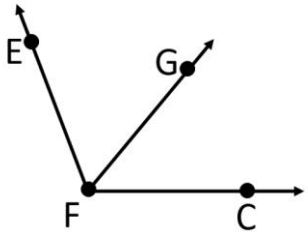
17. Solve for x.

$\overrightarrow{FG}$ bisects $\angle EFC$
$m\angle EFC = 136°$
$m\angle GFC = (3x + 2)°$

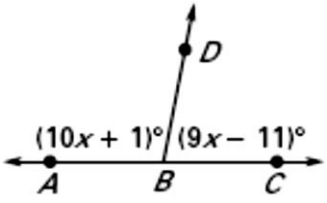


18. Solve for $m\angle EFC$.

$\overrightarrow{FG}$ bisects $\angle EFC$
$m\angle EFG = (10x + 15)°$
$m\angle GFC = (14x - 2)°$



19. Solve for x.



20. Solve for $m\angle MIR$