Integrated Math 3
Unit 1: Analytic Geometry
1.8 Review Worksheet

Name: _____

Date: _____ Period: _____

Unit 1 Quiz Review

Formulas:

$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Area of a Triangle: $A = \frac{1}{2} \cdot b \cdot h$

Area of a Rectangle/Square: $A = b \cdot h$

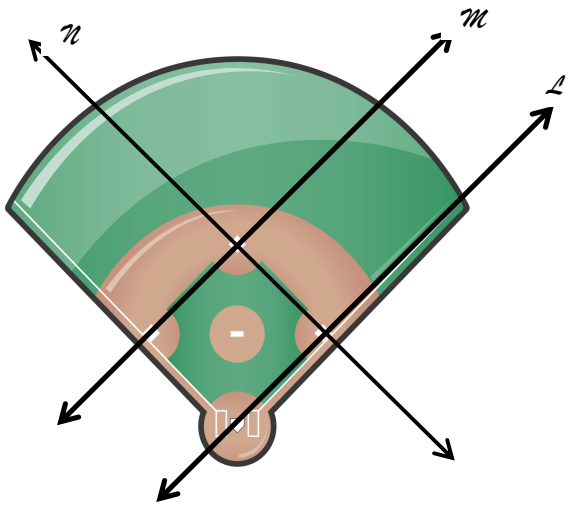
Area of a Parallelogram: $A = b \cdot h$

Area of a Rhombus: $A = b \cdot h$ or $A = \frac{1}{2} \cdot d_1 \cdot d_2$

Area of a Kite: $A = \frac{1}{2} \cdot d_1 \cdot d_2$

Area of a Trapezoid: $A = \frac{1}{2} \cdot h(b_1 + b_2)$

1. A baseball field is made up of many parallel and perpendicular lines. If the equation of first base line (line $\mathcal{L}$) is represented by $y = 2x + 5$,



a) find the equation of the line, in slope intercept form, formed between 2nd and 3rd base (line $\mathcal{M}$) if 3rd base is represented by the point $(2, 8)$.

b) find the equation of the line, in slope intercept form, formed between 1st and 2nd base (line $\mathcal{N}$) if 2nd base is represented by the point $(6, 12)$.

c) find the distance between second base and third base.

2. For the questions below, write equations that match the given criteria.

a) Write an equation of a line in slope-intercept form that is parallel to $y = 3x - 5$ and has a y-intercept of $(0, 4)$.

b) Write an equation of a line in slope-intercept form that is perpendicular to $y = -\frac{2}{5}x - 1$ and crosses through the point $(4, -6)$.

c) Write an equation of a line in slope-intercept form that is parallel to $y = \frac{3}{4}x + 2$ and goes through the point $(5, -1)$.

3. Two points that lie at $(7, 8)$ and $(x, -4)$ have a distance 20 units apart from each other. Find all possible values of x. Show evidence to support your work.

4. Convert the following equations from point-slope form to slope-intercept form.

a) $y + 7 = 3(x + 5)$

b) $y + 3 = -\frac{3}{4}(x - 4)$

5. Compare and contrast (be specific)…

a) a rectangle and a parallelogram.

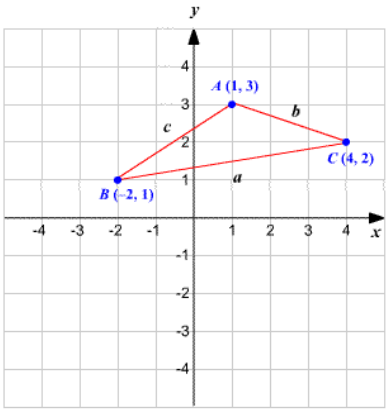
b) a kite and a square.

c) an isosceles triangle and scalene triangle.

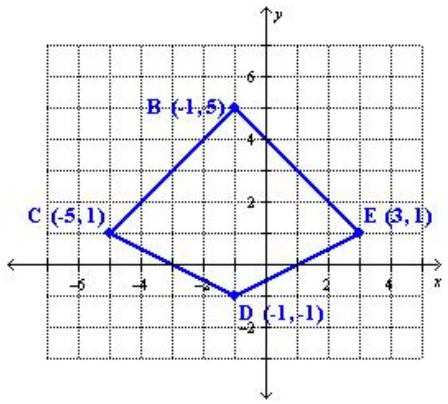
d) a trapezoid and a parallelogram.

6. Find the perimeter of each of the following and then classify the polygon.

a.)



b.)



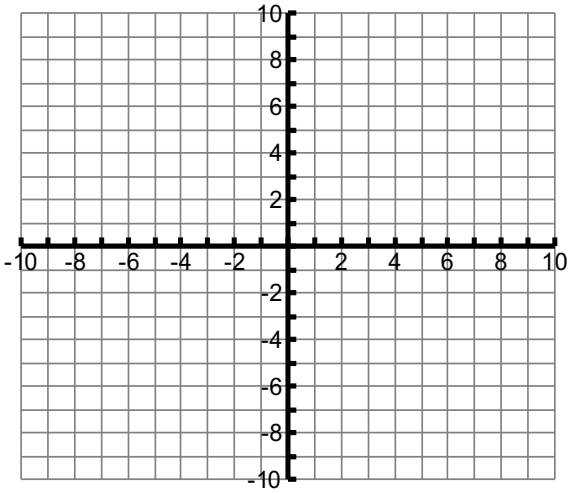
7. a) Determine the most descriptive name for quadrilateral $ETIK$ with vertices at each set of coordinates below. Sketch a graph if it's helpful, but include mathematical evidence (slope, distance, etc.) to validate claims.

$E(0, 5)$

$T(3, 6)$

$I(6, 5)$

$K(3, -1)$



b) Now, calculate the area and perimeter.

Perimeter =

Area =