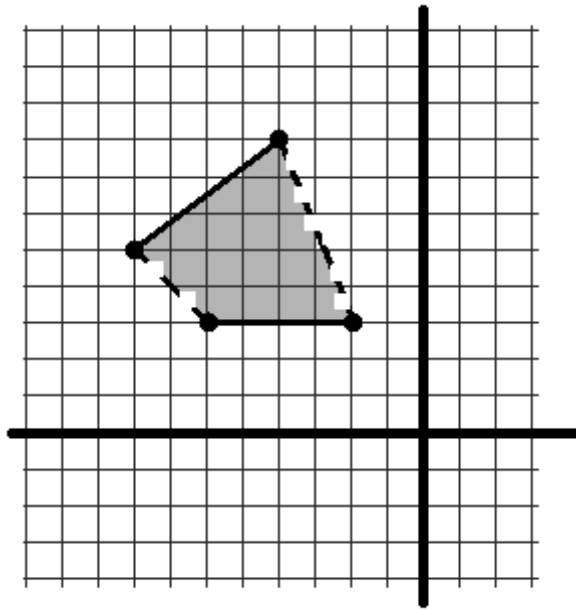


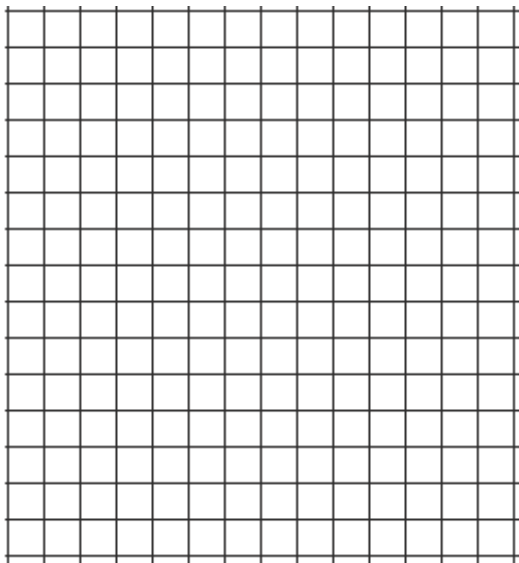
Advanced Precalculus
More with Lines

Name: _____

- 1.) Find the system of inequalities for the graph below.



- 2.) Graph:
$$\begin{cases} 3x + y \geq 3 \\ x - 4y > 4 \\ x < 5 \end{cases}$$



Write the equation of the line using point-slope form for each of the following.
Write your answer in slope-intercept form and in standard form.

3.) Point: $\left(-\frac{5}{4}, -1\right)$; Slope = $\frac{2}{5}$

4.) Point: $\left(\frac{1}{3}, -9\right)$; Slope = - 4

5.) Containing (9, -2) and (-8, 10)

6.) Containing $\left(-\frac{3}{2}, -\frac{1}{3}\right)$ and $\left(\frac{5}{4}, \frac{7}{2}\right)$

7.) Containing (2, -2),
parallel to $x - 2y = - 6$

8.) Containing $\left(-\frac{1}{5}, \frac{1}{4}\right)$,
perpendicular to $-3x + 5y = 10$

9.) **(Separate Paper!!)**

Given $\triangle ABC$ with A(1, 2), B(5, -3), C(7, 8), find the following:

- 1.) Coordinates of Circumcenter (where perpendicular bisectors intersect)
- 2.) Coordinates of Orthocenter (where altitudes intersect)
- 3.) Coordinates of Centroid (where medians intersect)