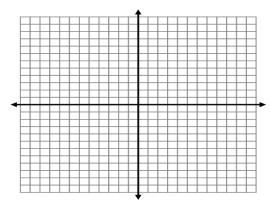
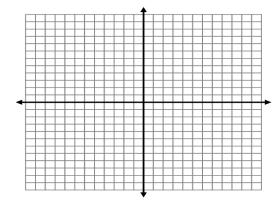
$\overline{\text{Topics:}}$ The coordinate plane; the Pythagorean Theorem; the Midpoint formula; interval notation; relations and functions. Attach your work if you do not have enough room on this worksheet.

1. Plot the points A(-1, -3), B(6, 1), and C(2, -5) on the grid below. Then connect the points and show algebraically (using the distance formula) that this triangle is a right triangle.



2. Plot the points A(5, -2), B(-5, -2), C(5,2), D(-5, 2), E(3, 0) and E(0, 3) on the grid below.



3. Which quadrants best describes the given conditions?

a.
$$\frac{x}{y} < 0$$

b. $x > -3$, $y = -\sqrt{7}$

For questions 4 through 6: Find the distance between the given points, then find the midpoint between those points.

4. A(4, -3) and B(6, 2)

D= _____ M = ____

5. A(6, 2) and B(6, -2)

D= ____ M = ____

6. A(-4, 7) and B(0, -8)

D= _____ M = ____