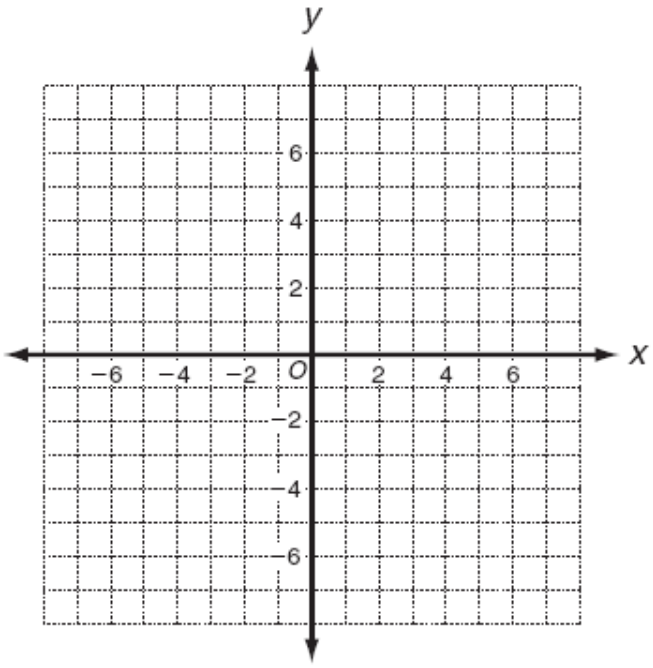
Name _____ Date _____ Class_____

## Geometry Notes Chapter 9 Supplement--Algebra

### *Applying Transformations to Lines*

Recall that the equation of a line in slope-intercept form is ***y = mx + b***, where *m* is the slope of the line, *b* is the *y*-intercept of the line, and (*x*, *y*) represents any point on the line.

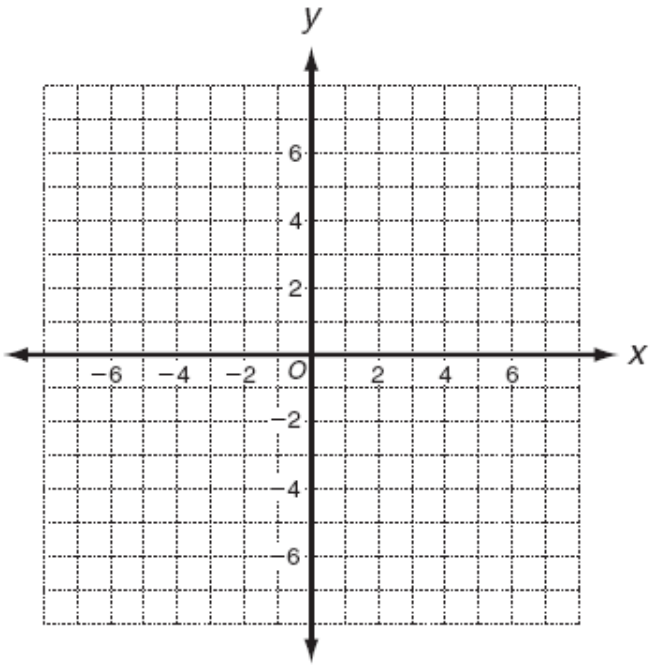



Graph line *k*: $y = 3x + 1$.

a. Reflect line *k* across the *x*-axis. Label the reflected line *m*. Write the equation of line *m* in slope-intercept form.

b. Reflect line *k* across the *y*-axis. Label the reflected line *p*. Write the equation of line *p* in slope-intercept form.

c. Translate line *k* along the vector ⟨2, -3⟩. Label the reflected line *r*. Write the equation of line *r* in slope-intercept form.




Graph line *k*: $2x + 3y = 3$

a. Reflect line *k* across the *x*-axis. Label the reflected line *m*. Write the equation of line *m* in slope-intercept form.

b. Reflect line *k* across the *y*-axis. Label the reflected line *p*. Write the equation of line *p* in slope-intercept form.

c. Translate line *k* along the vector ⟨-6, 2⟩. Label the reflected line *r*. Write the equation of line *r* in slope-intercept form.