Honors Geometry

Notes Section 3.5

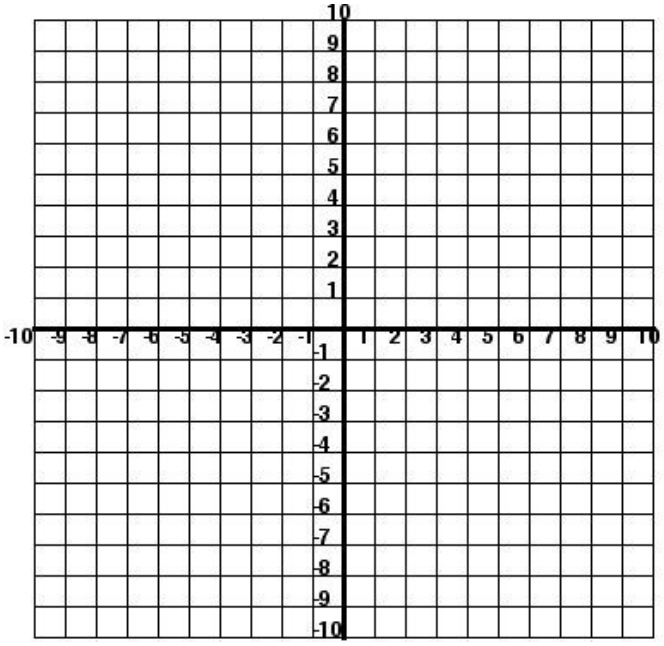
Write and Graph Equations of Lines

VOCABULARY

Slope-Intercept Form: $y = mx + b$; m = slope and b = y-intercept

Standard Form: $Ax + By = C$

EXAMPLE 1 Write an equation of the line in slope-intercept form.



Step 1 Find m

Step 2 Find b

Step 3 Write the equation

EXAMPLE 2 Write an equation of a line passing through the given point and parallel to the given equation.

a) through (-1,1)
parallel to y = 2x-3

b) through (2,-3)
parallel to y = 6x + 4

EXAMPLE 3 Write an equation of a line passing through the given point and perpendicular to the given equation.

a) through (2,3)
perpendicular to y = -2x + 2

b) through (3,-4)
perpendicular to y = -1/2x - 1

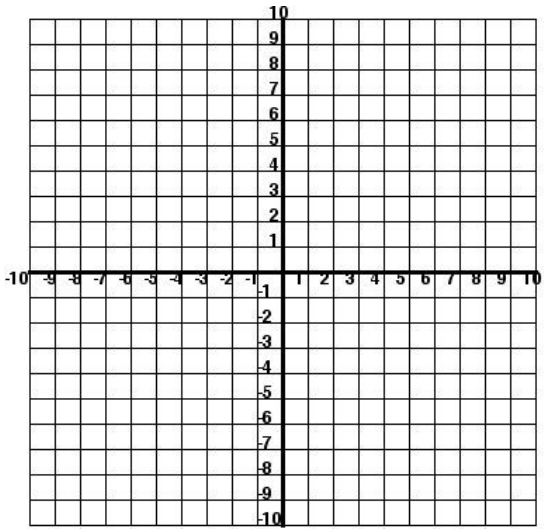
EXAMPLE 4 Write an equation of a line.

(2,231) and (5,363)

EXAMPLE 5 Graph by finding the intercepts.

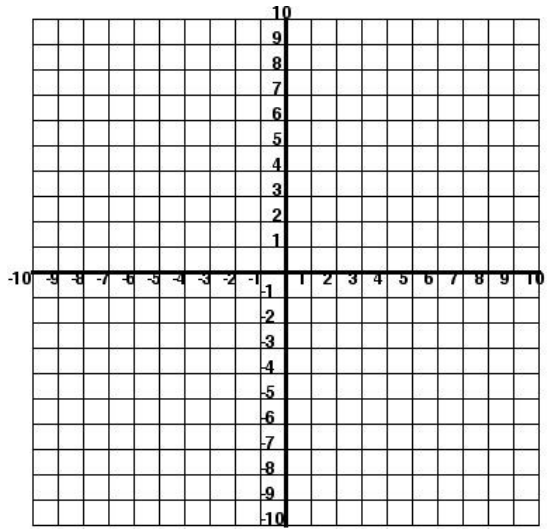
a) $3x + 4y = 12$

x-intercept y-intercept



b) $2x - 3y = 6$

x-intercept y-intercept



EXAMPLE 6 You can rent DVDs at a local store for $4 each. AN Internet company offers a flat fee of $15/month for as many rentals as you want. How many DVDs do you need to rent to make the online rental a better buy?

Online $y = 15$

Locally $y = 4x$