Comparing all of the Forms

Graphing Practice

1. $y = -2x + 3$

   a. What form is the equation in?
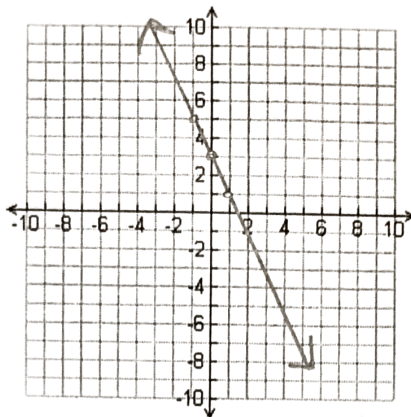
     Slope-intercept

   b. What is the slope?

     -2

   c. What is a point we know?

     $(0,3)$

2. $4x - 6y = 36$

   a. What form is the equation in?

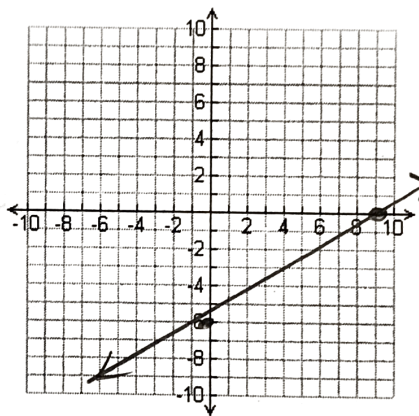   Standard form

   b. What is the x-intercept?

     9

   c. What is the y-intercept?

     -6

3. $y - 5 = \frac{1}{2}(x + 1)$

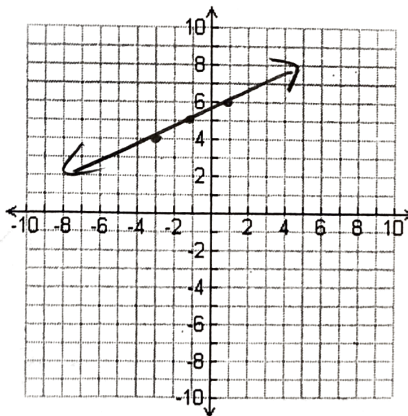   a. What form is the equation in?

     Point-slope form

   b. What is the slope?

     $\frac{1}{2}$

   c. What is a point we know?

     $(-1,5)$

Modeling with Linear Functions

1. Jamie owes her uncle $200. Each week she pays him $5.

   a. Write an equation relating the amount of weeks to the amount Jamie still owes her uncle.

   $$y = 200 - 5x$$

   b. What form is your equation in?

   Slope-intercept form

   c. Find the x and y intercepts of the graph and explain what they mean in the context of the situation.

   X_{int}: 40 → it takes her 40 weeks to pay the debt

   Y_{int}: 200 → how much she owes

2. You have $100 to spend on a barbeque where you want to serve chicken and steak. Chicken costs $1.29 per pound and steak costs $3.49 per pound.

   a. Write an equation that relates the amount of chicken and the amount of steak you can buy.

   $$1.29x + 3.49y = 100$$

   b. What form is your equation in? Standard form

   c. Find the x and y intercepts of the graph and explain what they mean in the context of the situation.

   X int: 77.5   you can buy at most 77.5 lbs of chicken with $100

   y-int: 28.7   you can 28.7 lbs of steak at most with $100

3. Daisy purchases a gym membership. She pays a signup fee and a monthly fee of $11. After 4 months, she has paid a total of $59.

   a. Write an equation that relates the amount of months she is a member and how much she pays for her being a gym member.

   $$y - 59 = 11(x - 4) \qquad \bigg| \qquad y = 11x + 15$$

   b. What form is your equation in?

   Point-slope form | Slope-intercept form

   c. How much will Daisy pay after 8 months

   $103

Graphing all Three Forms Homework

Slope-Intercept Form	Standard Form	Point-Slope Form
$$y = mx + b$$	$$Ax + By = C$$	$$y - y_1 = m(x - x_1)$$
What is highlighted?	What is highlighted?	What is highlighted?

Graph each equation. Use each coordinate plane for two graphs.
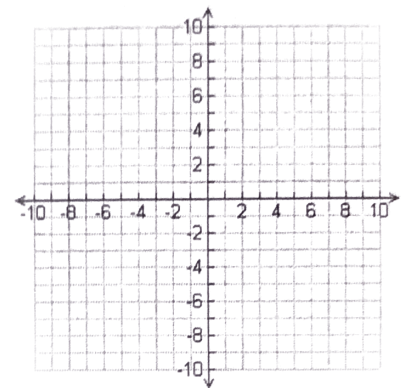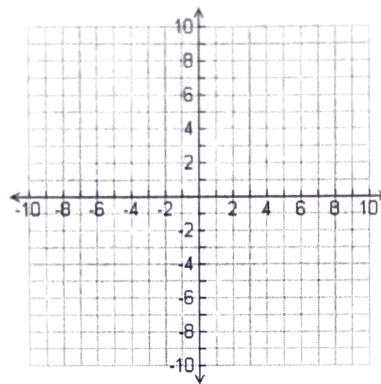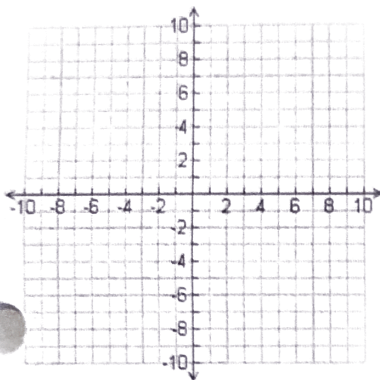
1) $y = \frac{1}{5}x + 8$

2) $2x - 5y = 10$

3) $y - 8 = -\frac{1}{4}(x - 2)$

4) $y = -\frac{1}{2}x$
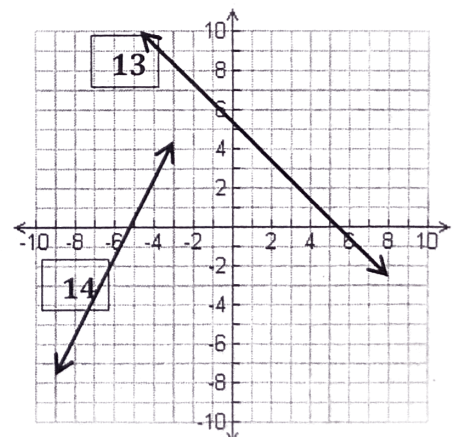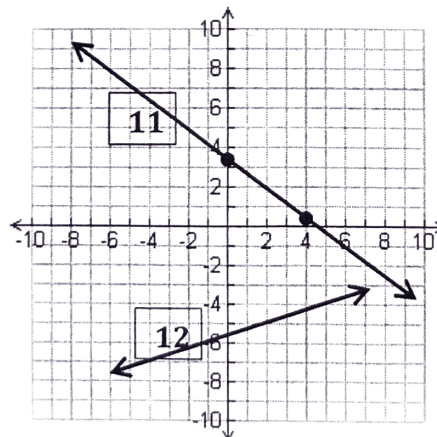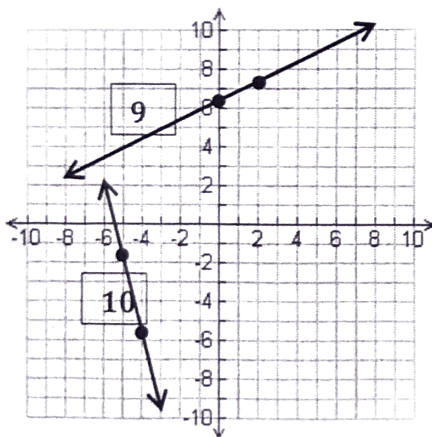
5) $y + 7 = \frac{4}{3}(x - 3)$

6) $y - 10 = 2(x + 5)$

7) Which form of equation do you like the best? Why?

8) Which form do you like the least? Why?

Write the equation of the line in slope-intercept form OR point-slope form.

9)

10)

11)

12)

13)

14)