8 Luisa chooses a cellphone plan that charges a flat fee of $20 per month and $0.25 for each text message sent.

Which equation best represents the cost of Luisa's cellphone plan, C, in dollars, where n is the number of text messages sent?

a $C = 20.25n$

b $C = 20(0.25n)$

c $C = 20n + 0.25$

d $C = 0.25n + 20$

9 There is a linear relationship between the total cost of renting a costume and the number of hours the costume is rented.

- For 3 hours, the total cost is $60.
- For 5 hours, the total cost is $80.

What type of variation is this relationship, and what is its initial value?

a a partial variation with an initial value of $30

b a partial variation with an initial value of $20

c a direct variation with an initial value of $30

d a direct variation with an initial value of $20

Learning Goals

1. To understand how to graph a line using the slope/y-intercept method.

Graphing a Line Using the y-Intercept and Slope Method

A linear relation can be graphed by plotting the y-intercept and then applying the slope (rise over run) to locate other points.

Remember, slope (m) = $\frac{rise}{run}$

Rise means up if the number is positive and down if the number is negative.

Run means right if the number is positive and left if the number is negative.

Rule for Graphing Using the Slope and y-Intercept Method

1. Plot the y-intercept (b) along the y-axis as given by the equation.

2. At this point along the y-axis, move up or down and then left or right, depending on the value of the given slope (m). Put a dot at this point.

3. Starting at the new dot, repeat step 2, moving up or down and then left or right, depending on the value of the given slope to get another point on the graph.

4. With a straight edge, connect the three dots and label this line with its equation.

Example One

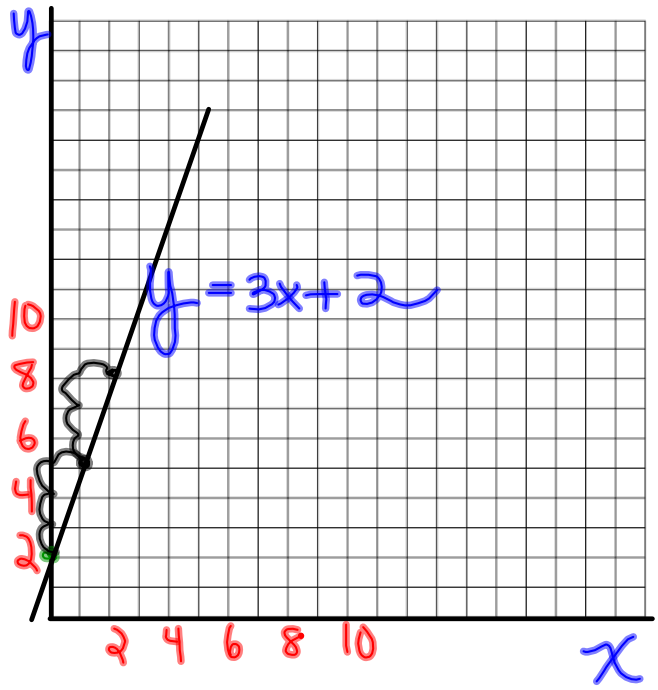
For each line, identify the slope and y-intercept and then use them to graph the line.

a) $y = 3x + 2$

Slope: $\frac{3}{1}$ (up) (right)

Y-intercept:

2 * always the starting pt

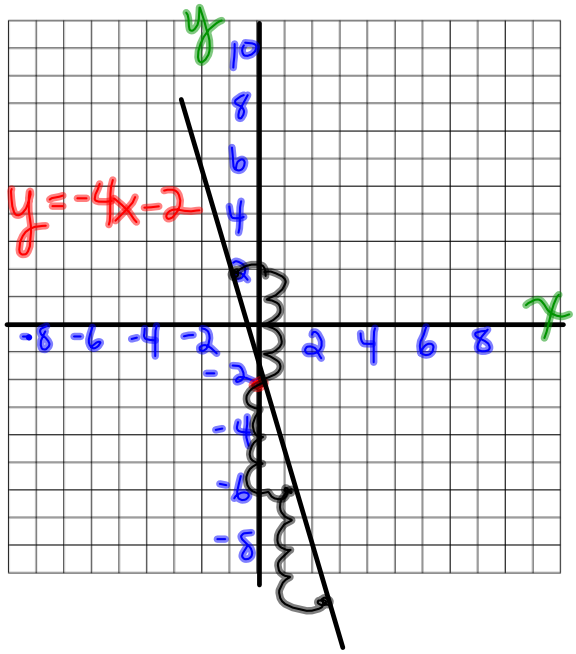


b) $y = -4x - 2$

Slope: $\frac{-4}{1}$ (down) (right)

Y-intercept:

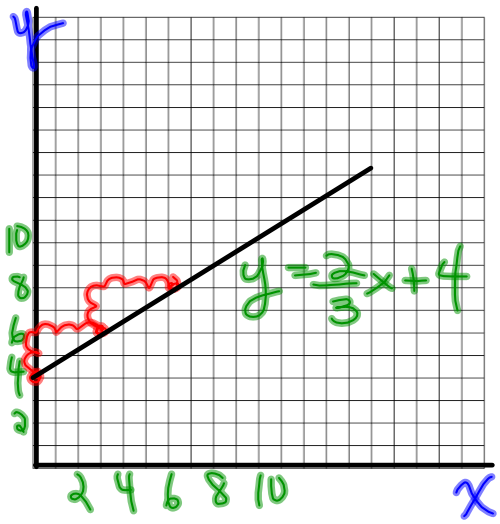
-2 (starting pt)



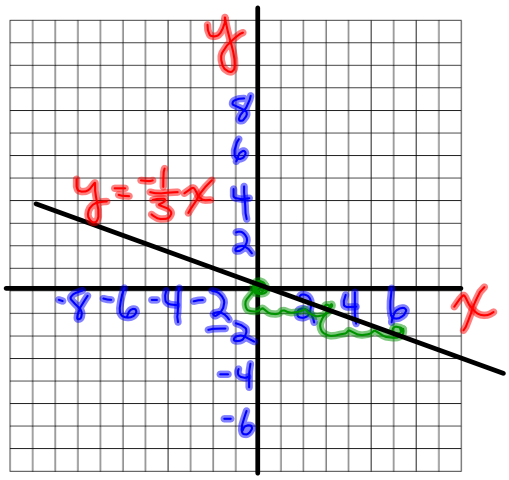
Example Two

Graph each of the following lines.

a) $y = \frac{2}{3}x + 4$



b) $y = -\frac{1}{3}x + 0$



Complete: p. 246 #3ad, 8.