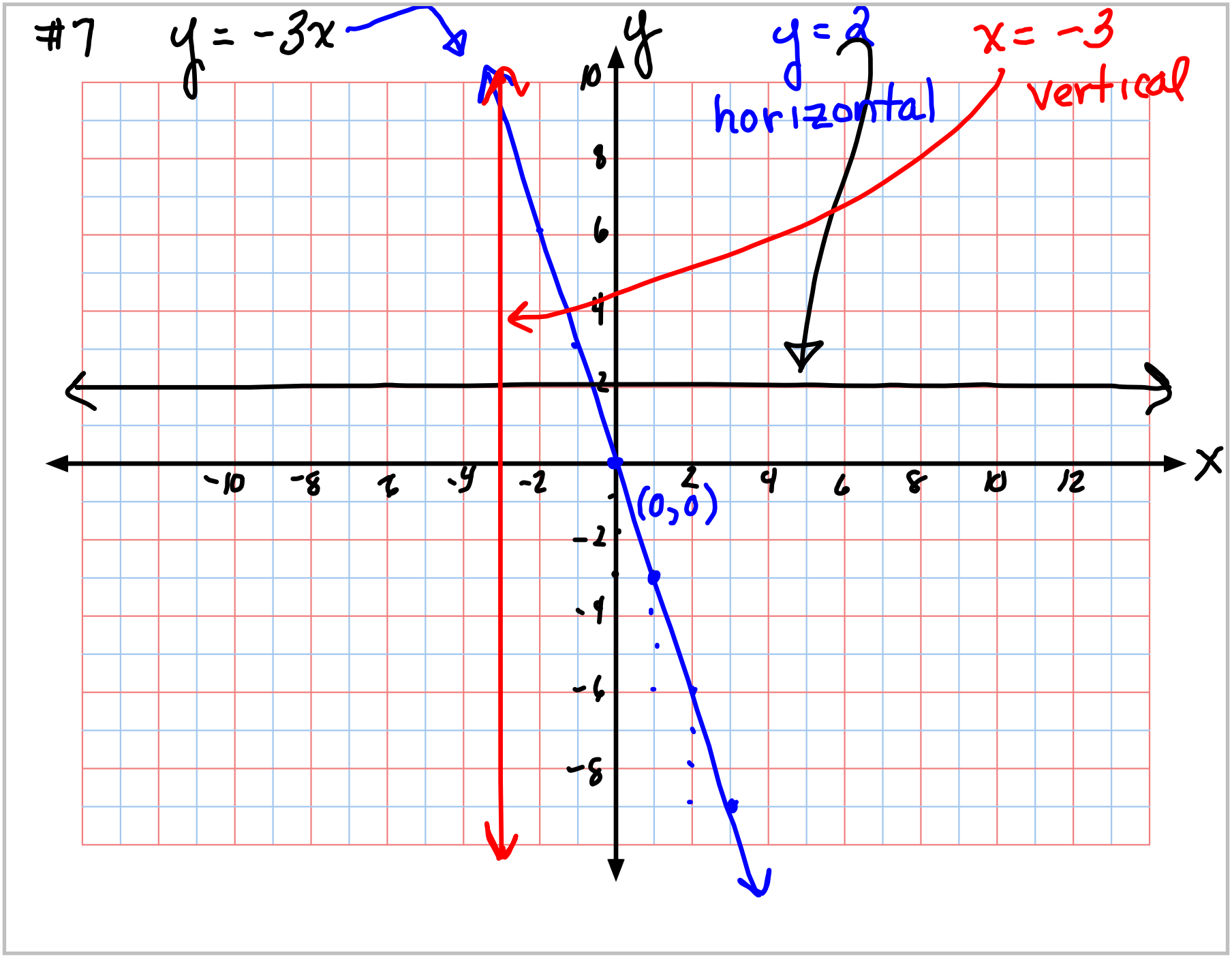

#7
y = -3x
y
y = 2
horizontal
x = -3
vertical
10
8
6
4
2
-10
-8
-6
-4
-2
2
4
6
8
10
12
X
(0,0)
-2
-4
-6
-8

(11.) $y - 2 = 2(x-5)$

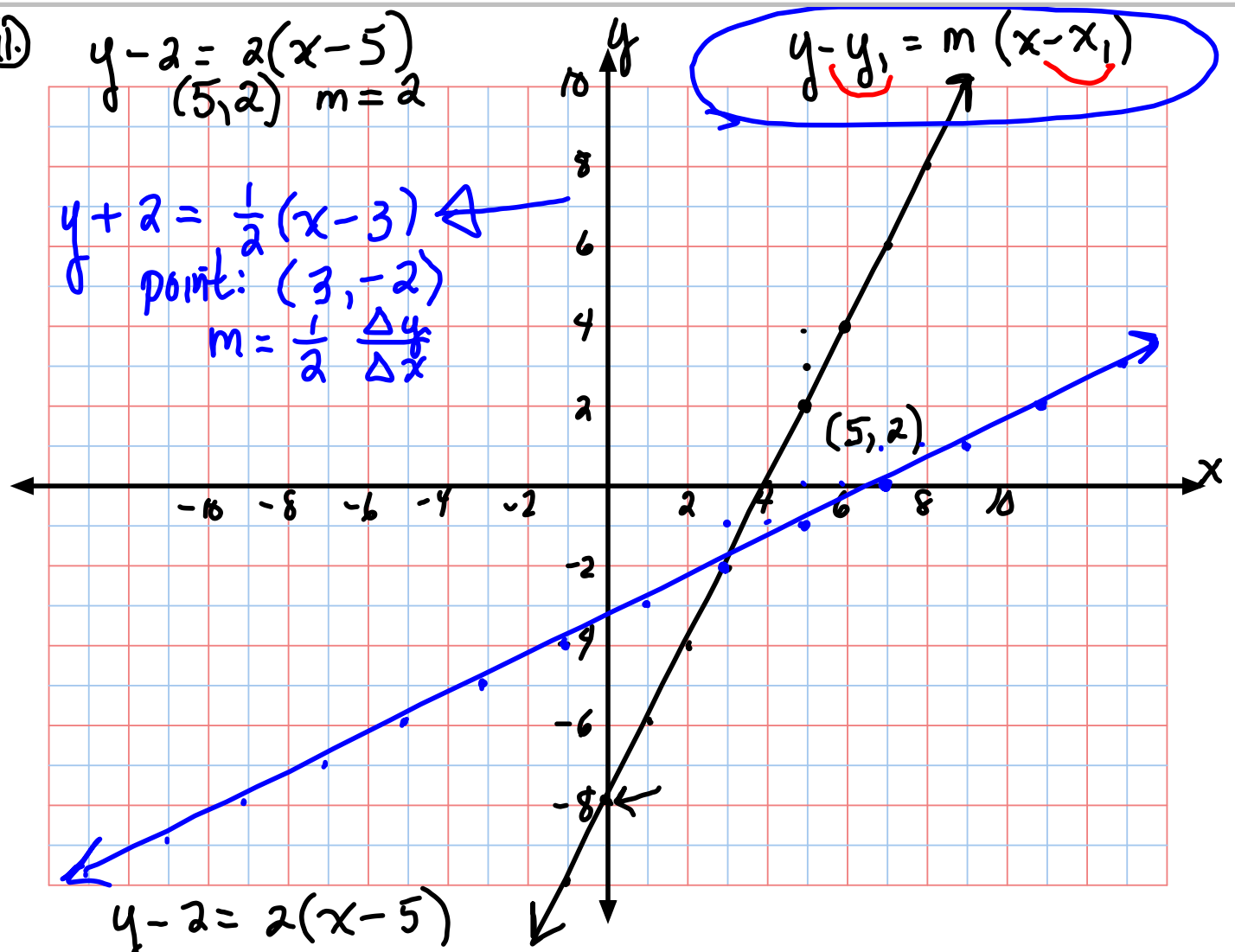
$(5,2)$ $m = 2$

$y - y_1 = m(x - x_1)$

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

point: $(3,-2)$

$m = \frac{1}{2}$ $\frac{\Delta y}{\Delta x}$



$y - 2 = 2(x-5)$

$y - 2 = 2x - 10$

$+2 \qquad +2$

$y = 2x - 8$

$y = -\frac{1}{5}x + 6$

Violet sheets (1, 2) and (−3, −1)

a) $m = \frac{-1-2}{-3-1} = \frac{-3}{-4} = \frac{3}{4}$

$y = mx + b$

b) $4(2) = \left(\frac{3}{4}(1) + b\right)4$

$8 = 3 + 4b$

$-3 \quad -3$

$\frac{5}{4} = \frac{4b}{4}$

$\frac{5}{4} = b$

$y = \frac{3}{4}x + \frac{5}{4}$

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

$4y - 8 = 3x - 3$

$+8 \qquad +8$

$\frac{4y}{4} = \frac{3x + 5}{4}$

$y = \frac{3}{4}x + \frac{5}{4}$

$\frac{3}{4}x \quad (3/4)x$

4.2 (13) $5x - 3y = -2$

$-3(10x - y = 1)$ →

$5x - 3y = -2$

$-30x + 3y = -3$

$\frac{-25x}{-25} = \frac{-5}{-25}$

$x = \frac{1}{5}$

$5\left(\frac{1}{5}\right) - 3y = -2$

$1 - 3y = -2$

$-1 \quad -1$

$\frac{-3y}{-3} = \frac{-3}{-3}$

$y = 1$

Solution

$\left(\frac{1}{5}, 1\right)$

$x \quad y$

#42 Car Rentals

Company 1 21.99/day plus 0.20/mi

Company 2 19.99/day plus 0.22/mi

① let y = The total cost/day
x = the total miles driven

$y = 21.99 + .20x$ ②

$y = 19.99 + .22x$

$-.20x + y = 21.99$

$-1(-.22x + y = 19.99)$

$-.20x + y = 21.99$
$.22x - y = -19.99$

$.22 - .20 = .02$

$\frac{.02x}{.02} = \frac{2}{.02}$

③ $x = 100$

④ The cost to rent would the same if 100 miles were driven

Number Problems
Interest Problems
Coin/mixture problems

pg 240 (2) difference = 6
sum = 30

find the two numbers

let x = The 1st number
y = The 2nd number

$$x - y = 6$$
$$x + y = 30$$

$$2x = 36$$
$$\frac{2x}{2} = \frac{36}{2}$$
$$x = 18$$

$$x - y = 6$$
$$18 - y = 6$$
$$-18 \quad -18$$
$$-y = -12$$
$$(-1)(-y = -12)(-1)$$
$$y = 12$$

The two numbers are 18 and 12.

Interest Problem

#10 pg 241

$11,000 invested
part 4%
rest 7%
total interest 680

Sol'n let x = the amt invested at 4%
y = " " " at 7%

	amt	int rate	total interest
at 4%	x	.04	.04x
at 7%	y	.07	.07y
total	11,000		680

$x + y = 11000$

$100(.04x + .07y = 680)$ → $-7(x + y = 11000)$

$4x + 7y = 68000$

$-7x - 7y = -77000$
$4x + 7y = 68000$

$-3x = -9000$

$\frac{-3x}{-3} = \frac{-9000}{-3}$

$x = 3000$

$x + y = 11000$

$3000 + y = 11000$

$-3000 \quad -3000$

$y = 8000$

So, he invested $3000 at 4% interest and $8000 at 7% interest.

#14 pg 241

.95 in dimes & nickels
11 coins How many of each?

let x = the number of dimes
y = the number of nickels

	amt	value	total worth
dimes	x	.10	$.10x$
nickels	y	.05	$.05y$
total	11		.95

$x + y = 11$

$.10x + .05y = .95$

$[.10x + .05(11 - x) = .95]\ 100$

$10x + 5(11 - x) = 95$

$10x + 55 - 5x = 95$

$5x + 55 = 95$

$-55 \quad -55$

$\frac{5x}{5} = \frac{40}{5}$

$x = 8$

$x + y = 11$

$-x \quad -x$

$y = 11 - x$ alt $x = 11 - y$

$.10(11 - y) + .05y = .95$

$10(11 - y) + 5y = 95$

$110 - 10y + 5y = 95$

$110 - 5y = 95$

$-110 \quad -110$

$\frac{-5y}{-5} = \frac{-15}{-5}$

$y = 11 - x$

$y = 11 - 8$

$y = 3$

$y = 3$

She has 8 dimes and 3 nickels.