10-7-13

3.1

Example

1 ⟶ 5

2 ⟶ 9, 13

3 ⟶ 9, 17

4 ⟶ 24

5 ⟶ 27, 31

3.2

1 ⟶ 7, 9

2 ⟶ 13

3 ⟶ 21, 27

4 ⟶ 28

5 ⟶ 35

6 ⟶ 41

7 ⟶ 47

3.1

(5.) 2 drinks, 100 lbs

(7.) $\frac{3 \text{ drinks}}{1 \text{ hr}}$ and Level $< 0.08\%$

$0.08\% = 0.0008$

weight > 140 lbs

example 2 → (13)

$11.9\% = 0.119 \rightarrow X = 0.119 \cdot 245$ million

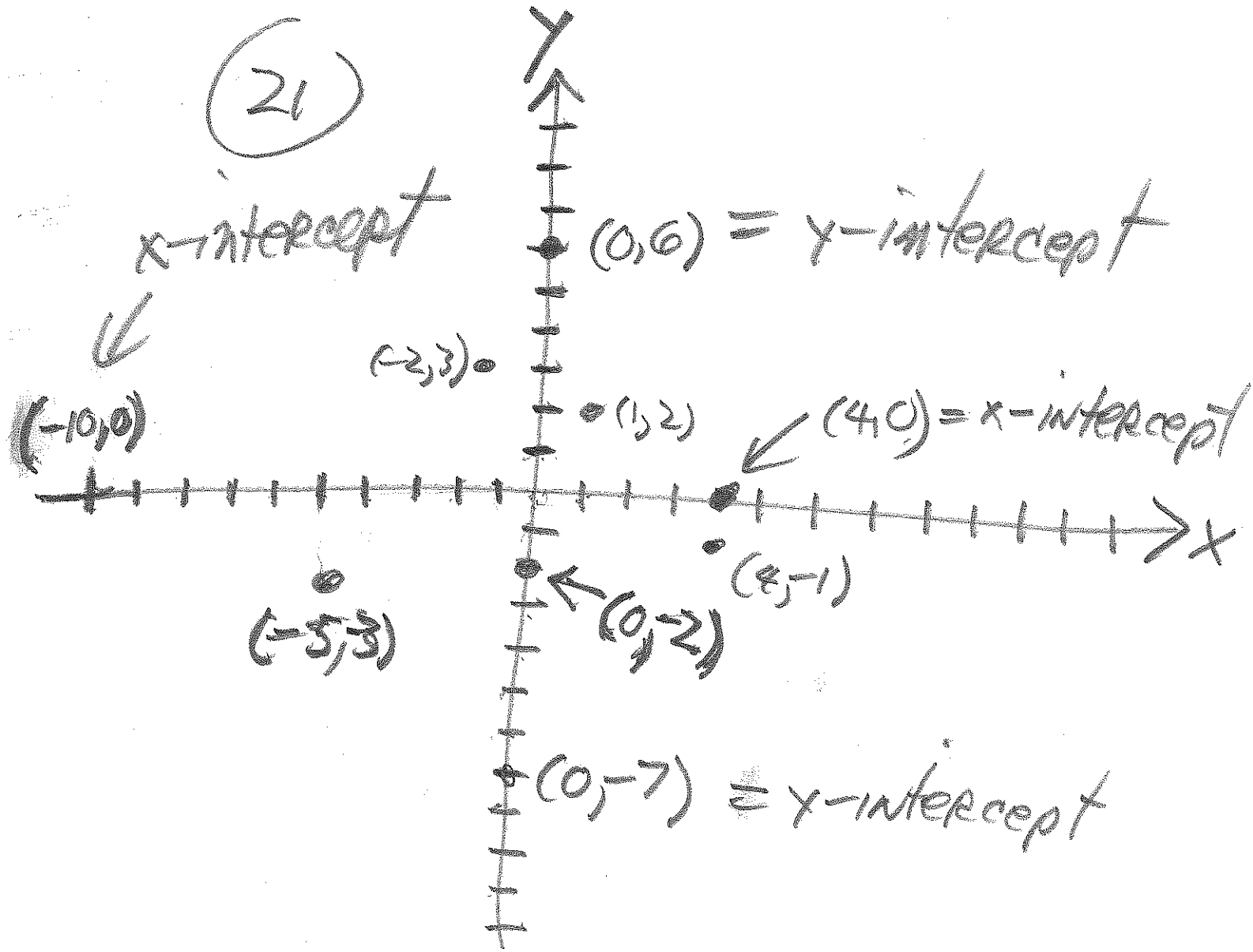
$$\begin{array}{r} 44 \\ 245 \\ \hline 0.119 \\ \hline 2205 \\ 245 \\ 245 \\ \hline 29.155 \end{array}$$

→ 29.155 million

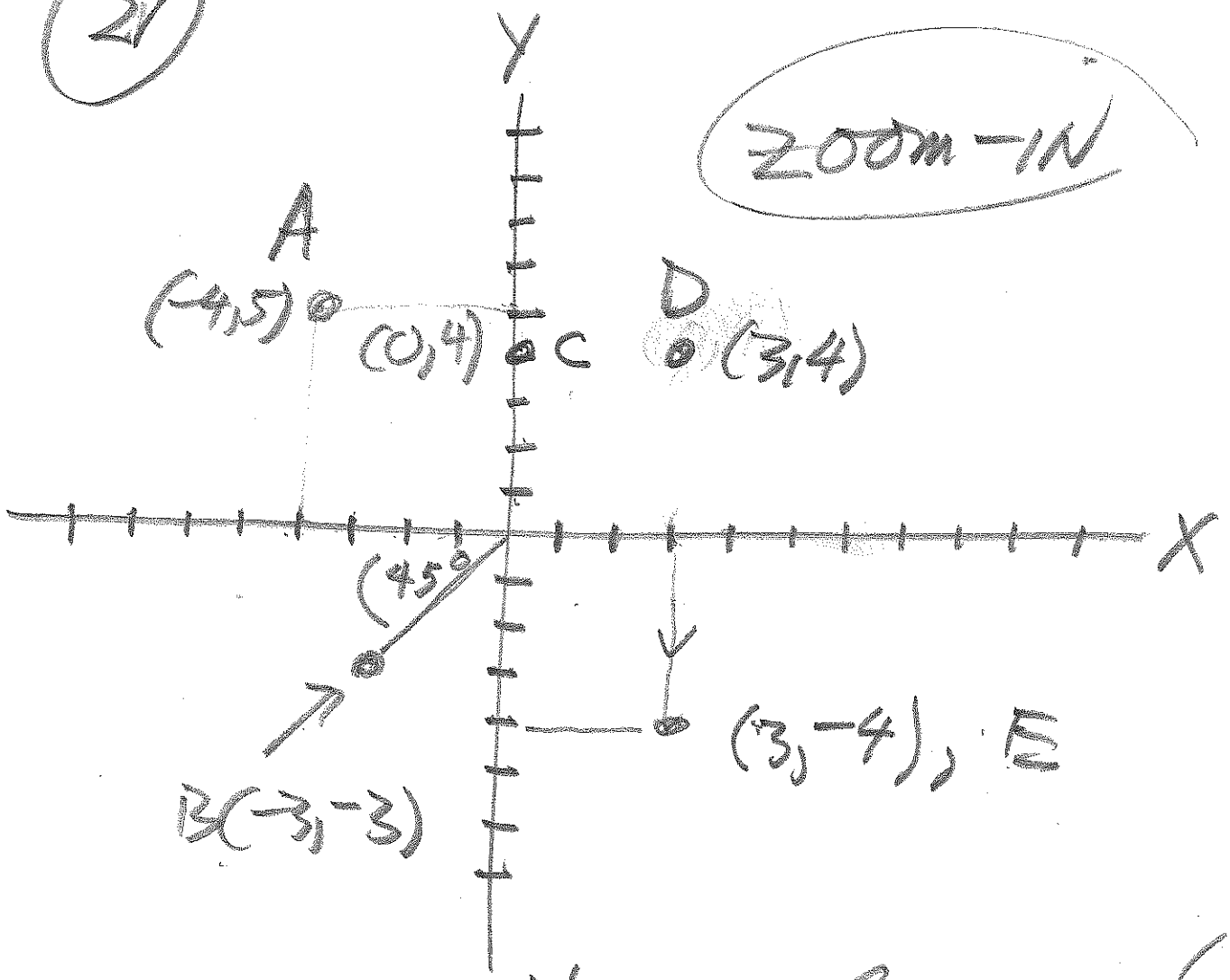
example 3 ⟶ 17

2002 → 26.1/10%

(21)

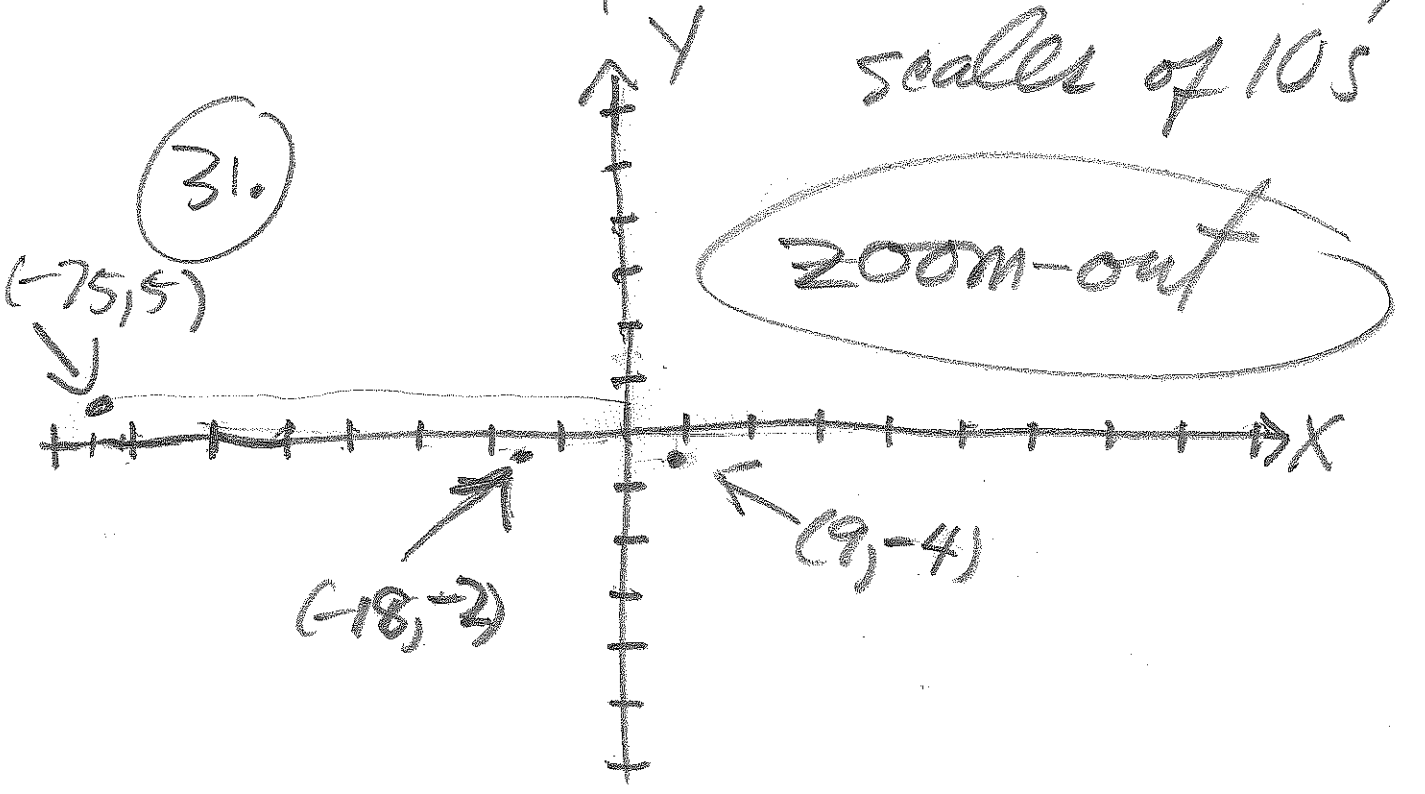


27



zoom-in

31.



scale of 10's

zoom-out

3.2

(7) $y = 4x$ → $(2,1) = (x,y)$

yes

↓

$1 \stackrel{?}{=} 4 \cdot 2 \rightarrow$

$1 \stackrel{?}{=} 8 \rightarrow$

$1 = 1$

(9) $3y + 4x = 19$ → $(5,1)$

NO

↓ ↓

1 5

$3 \cdot 1 + 4 \cdot 5 \stackrel{?}{=} 19$

$3 + 20 \stackrel{?}{=} 19$

$23 \stackrel{?}{=} 19$ (NO)

$23 \neq 19$

(13.) $y = x + 3$; $(-1, 2)$ $(4, 7)$

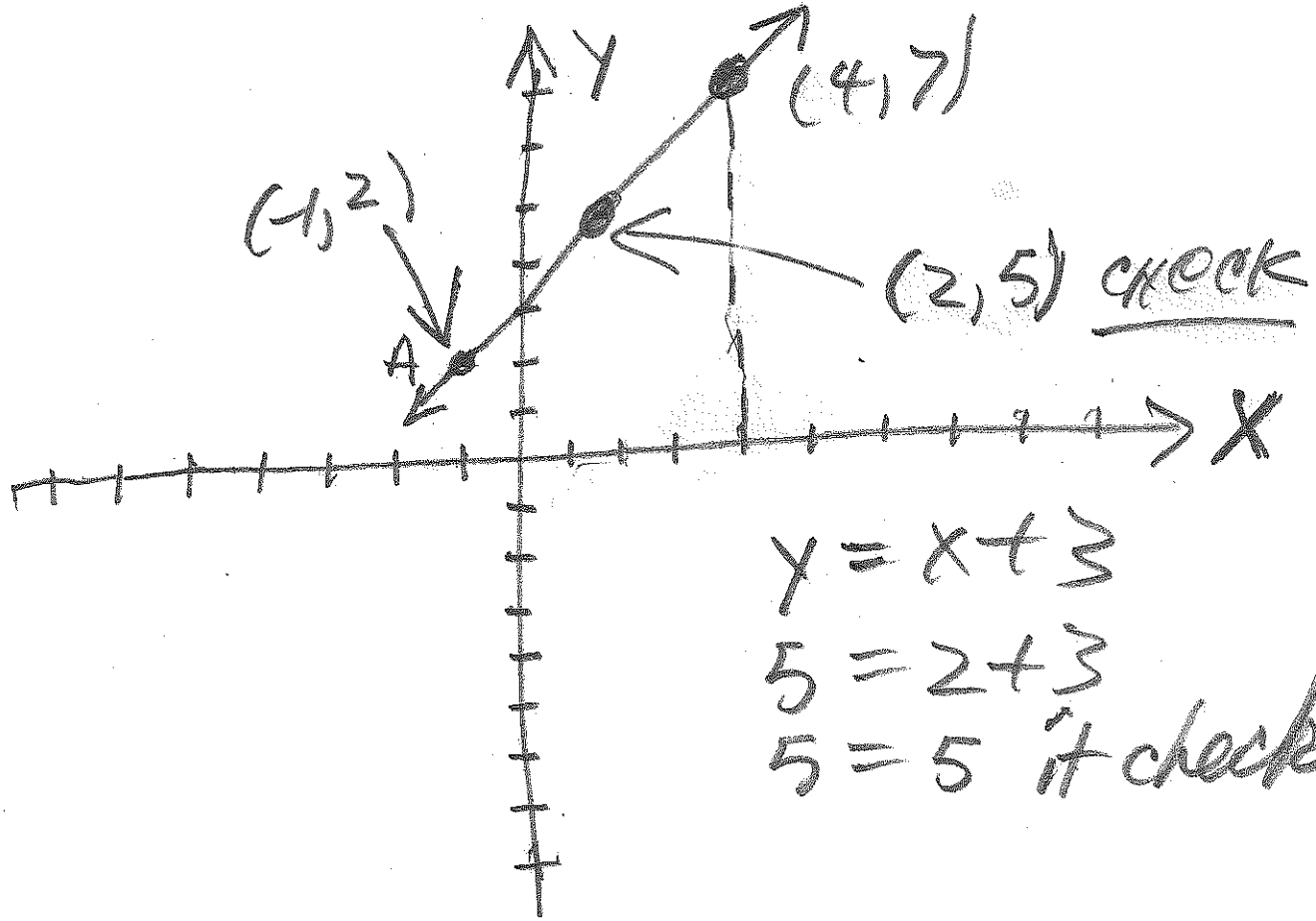
A B

$2 = -1 + 3$

$2 = 2$

$7 = 4 + 3$

$7 = 7$



$y = x + 3$

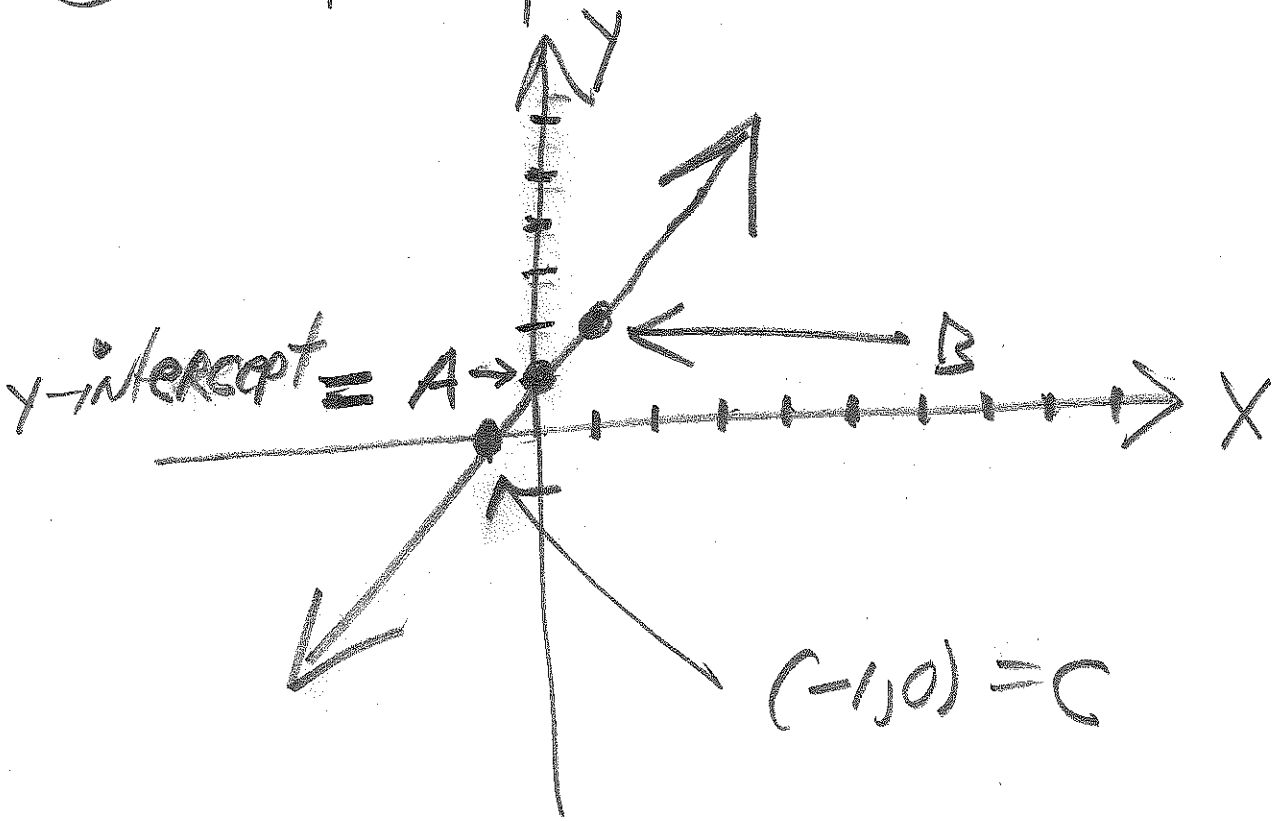
$5 = 2 + 3$

$5 = 5$ it checks

(21.) $y = x + 1$

process: choose x, compute y

	x	y	work
(A)	0	1	$0+1=1$
(B)	1	2	$1+1=2$
(C)	-1	0	$-1+1=0$

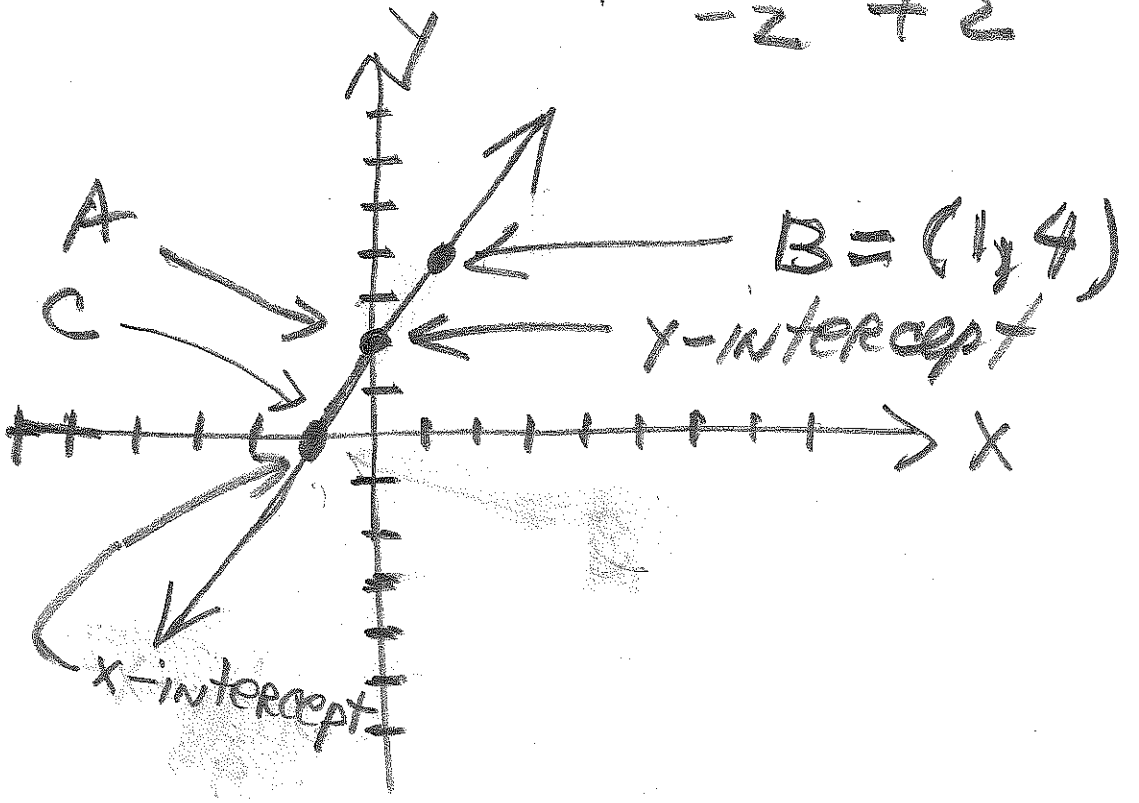


3.2

(22)

$y = 2x + 2$

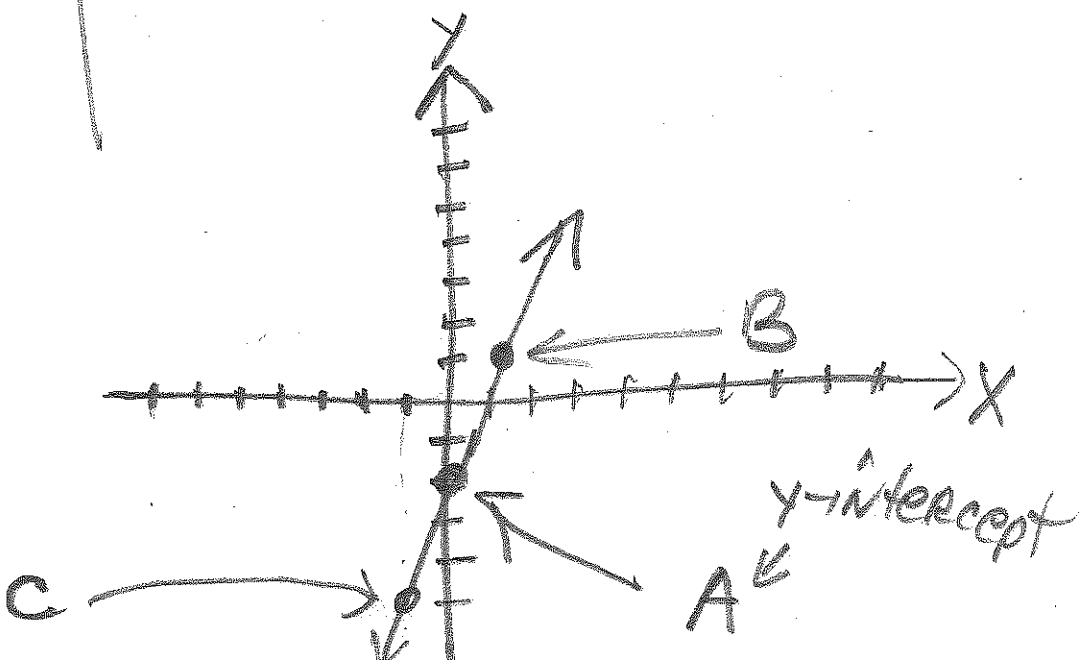
	x	y	work
A	0	2	$2 \cdot 0 + 2 = 0 + 2 = 2$
B	1	4	$2 \cdot 1 + 2 = 2 + 2 = 4$
C	−1	0	$2 \cdot (-1) + 2 = 0$ $-2 + 2 = 0$



(28)

$$y = 3x - 2$$

	X	Y	WORK
A	0	−2	$3 \cdot 0 - 2 = 0 - 2 = -2$
B	1	1	$3 \cdot 1 - 2 = 3 - 2 = 1$
C	−1	−5	$3 \cdot (-1) - 2 = -5$ $-3 - 2 = -5$



3.2

(37.)

$x + 2y = -6$

(10

choose $y = 0$

$x + 2 \cdot 0 = -6$

$x + 0 = -6$

$x = -6$

$(-6, 0)$ x-intercept

choose $x = 0$

$0 + 2y = -6$

$2y = -6$

$\frac{2y}{2} = \frac{-6}{2}$

$y = -3$

$(0, -3)$ y-intercept

Check point

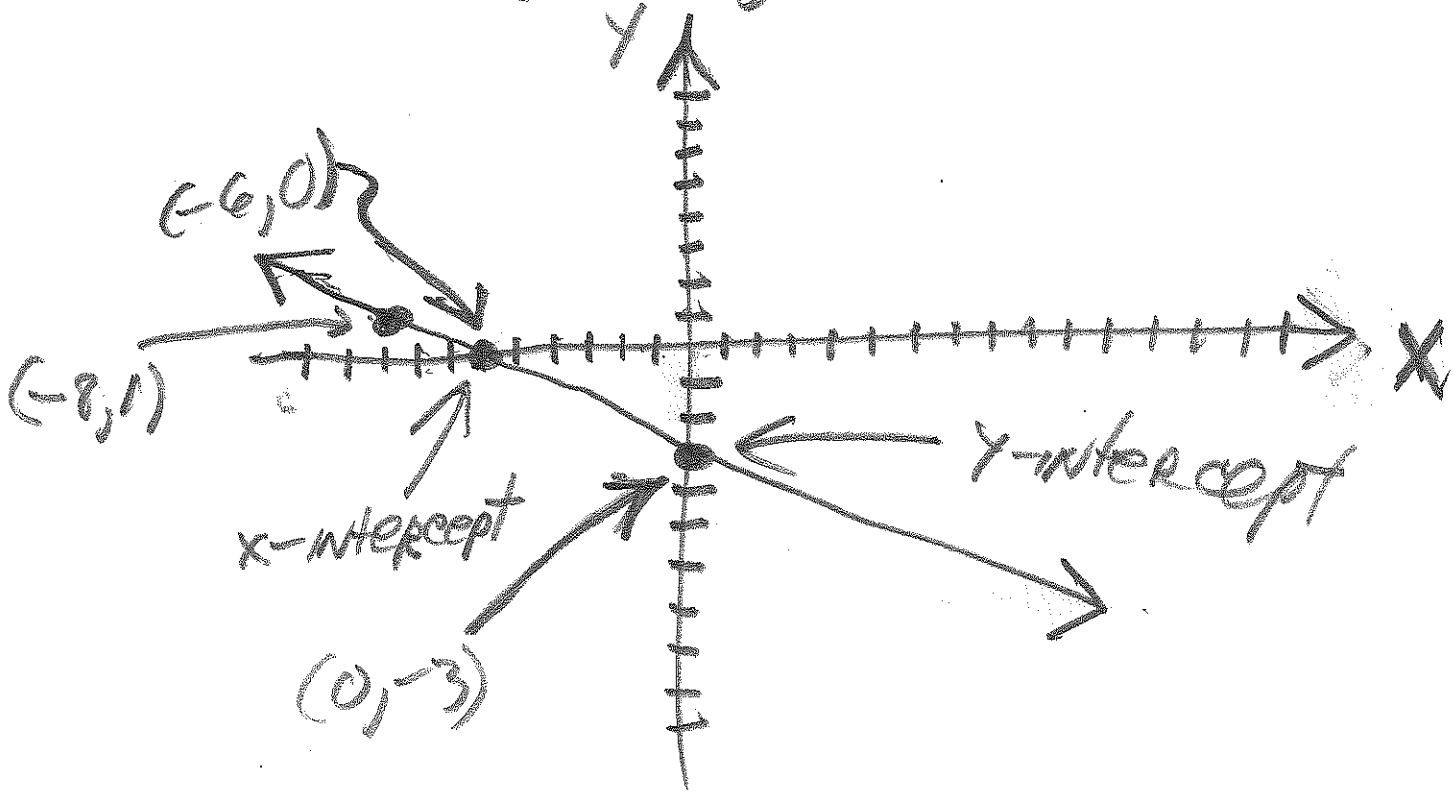
(3e) $y = 1$

$$x + 2(1) = -6$$

$$x + 2 = -6$$

$$x = -8$$

$$(-8, 1)$$



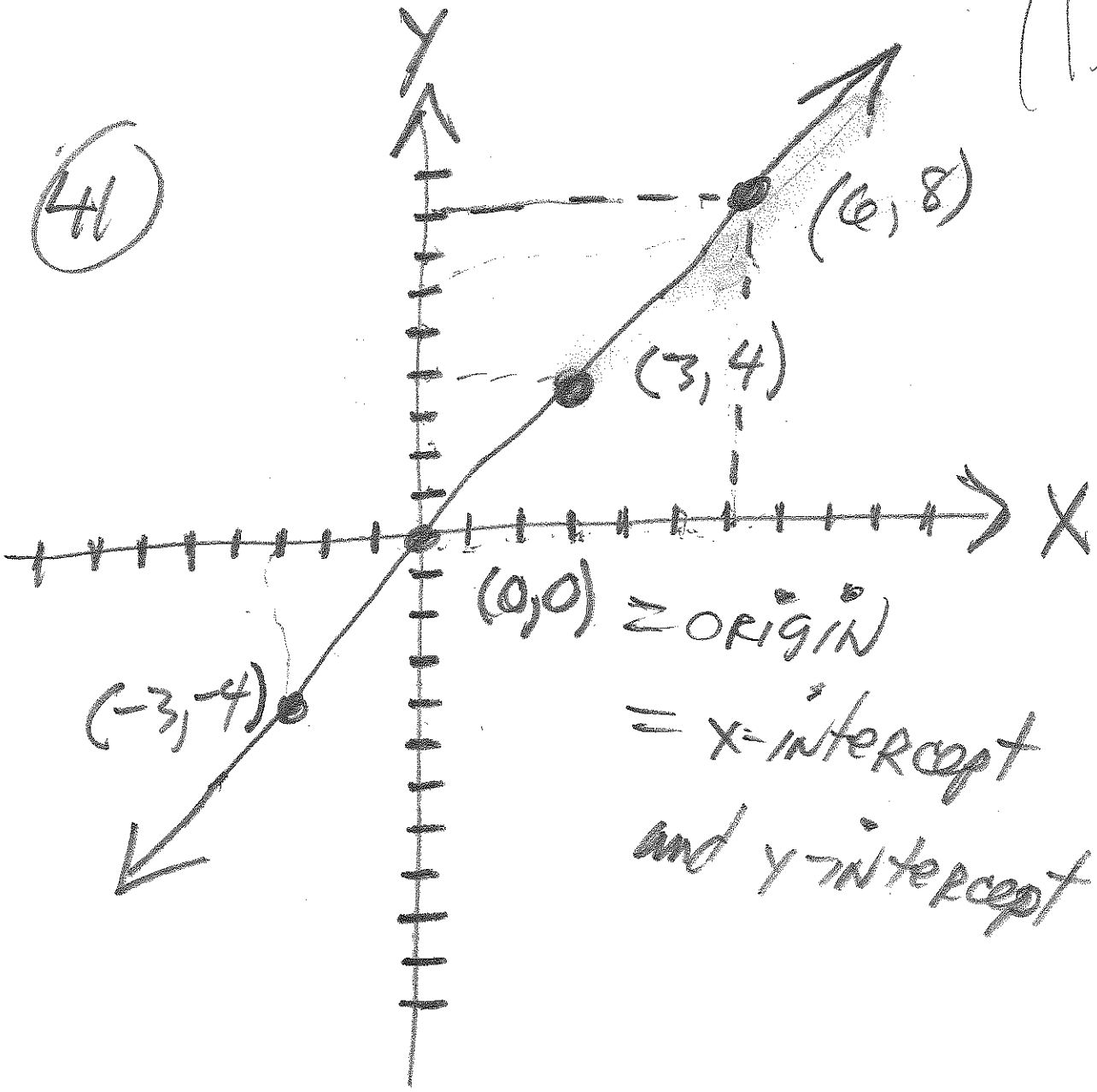
(4.) $4x = 3y$

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

$\frac{4}{3}x = y \Rightarrow$ $\boxed{y = \frac{4}{3}x}$

x	y	work →
3	4	$\frac{4}{3} \cdot 3 = 4$
6	8	$\frac{4}{3} \cdot 6^{2} = = 8$
−3	−4	$\frac{4}{3} \cdot (-3) = -4$
0	0	$\frac{4}{3} \cdot 0 = 0$

(41)



= x-intercept and y-intercept

(47) $6y + 2x = 8$

Example 7: solve for y

$$\begin{array}{r} 6y + 2x = 8 \\ -2x \quad -2x \\ \hline 6y = -2x + 8 \end{array}$$

$$\frac{6y}{6} = \frac{-2x + 8}{6}$$

$$y = -\frac{2}{3}x + \frac{8}{6}$$

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

Answers & read example 7 page 60

(45) Better ↔ example 7

$$6x - 3y = 9$$
$$-6x \qquad -6x$$

$$-3y = -6x + 9$$

$$\frac{-3y}{-3} = \frac{-6x + 9}{-3}$$

$$y = -\frac{6}{3}x - \frac{9}{3}$$

$$y = 2x - 3$$

$y = 2x - 3$

	x	y
A	0	-3
B	1	-1
C	-1	-5

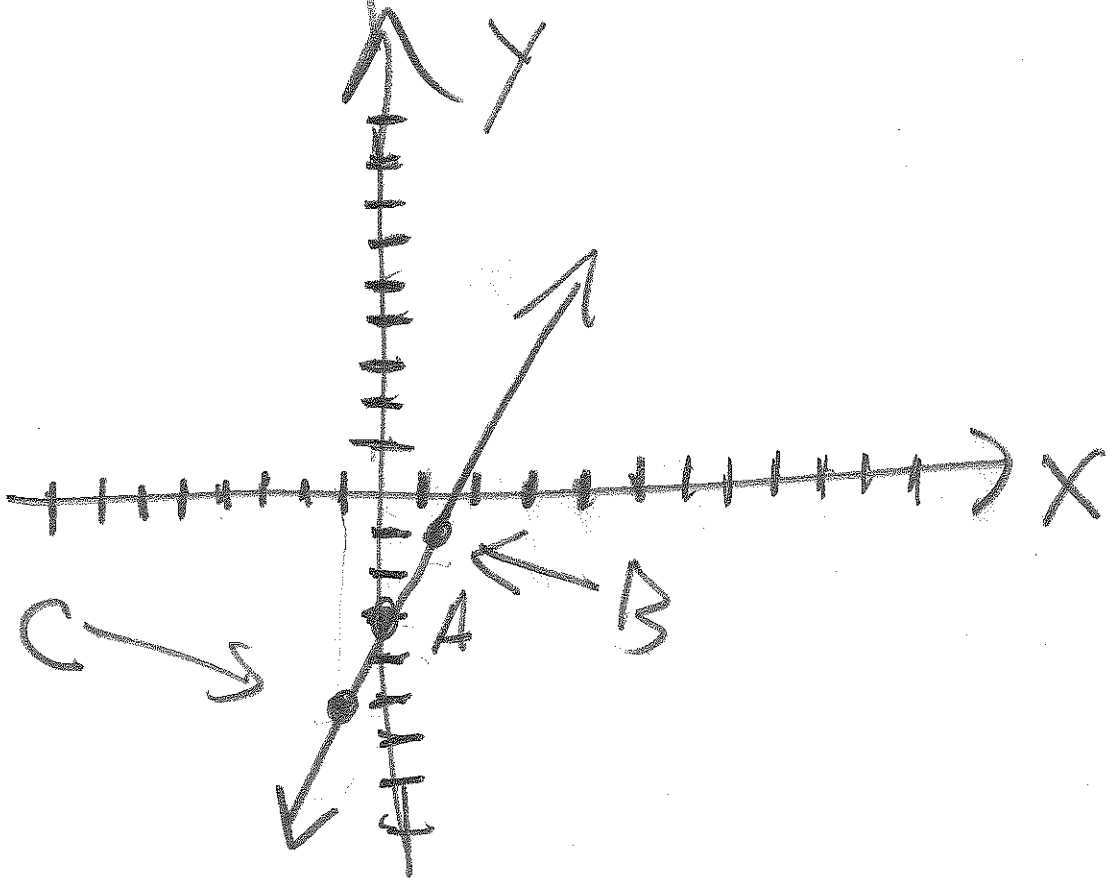
$y = 2 \cdot 0 - 3 = -3$

$y = 2 \cdot 1 - 3 = 2 - 3 = -1$

$y = 2 \cdot (-1) - 3$

$= -2 - 3$

$= -5$



(47)

$6y + 2x = 8$

Be SMART

Be cunning

pick x values to avoid fractions

x	y	$6y + 2x = 8$
1	1	$6y + 2 \cdot 1 = 8$ $6y + 2 = 8$ $6y = 6$ $y = 1$
-2	2	$6y + 2 \cdot (-2) = 8$ $6y - 4 = 8$ $6y = 12 \Rightarrow y = 2$

x	y
4	0

↑ choose y

$6 + 2x = 8$

$2x = 2$

$x = 4$

(17