Ch 6 Test Part 2

1) $-\frac{1}{2}$

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

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

3) a) $y = \frac{1}{5}x + 2 \Rightarrow x - 5y + 10 = 0$

b) $y = \frac{1}{5}x - 2 \Rightarrow x - 5y - 10 = 0$

c) $y = -\frac{1}{5}x - 2 \Rightarrow x + 5y + 10 = 0$

d) $y = -\frac{1}{5}x + 2 \Rightarrow x + 5y - 10 = 0$

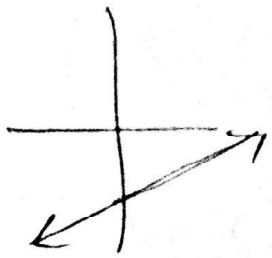
4) $y = -\frac{4}{3}x + 4 \equiv 4x + 3y - 12 = 0 \equiv y - 8 = -\frac{4}{3}(x + 3$

all are equivalent.

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

6) $2x - 5y - 30 = 0$

x	$\frac{2}{5}x - 6$
15	0
10	-2
-5	-8
-10	-10



$\Rightarrow$ I and III only

7) (D) 8) (A) 9) slope $= -\frac{3}{5}$

10) (0, 10) and (5, 0)

11) no mistakes.

12.) start @ $-\$80$ @ $n=0$

finish @ $\$75$ @ $n=100$

$$\text{slope} = \frac{\Delta \text{price}}{\Delta \text{amount}} = \frac{155}{100} = 1.55$$

$$P = 1.55n - 80$$

13.) $y = \frac{2}{5}x + 5$

14.) $\text{slope}_A = -\frac{1}{2}$

$x\text{-int}_A = 4$

line B $y = -\frac{1}{2}x + b$ $x=4$ $y=0$

$\Rightarrow 0 = -2 + b \Rightarrow$

$b = -8$

15.) $x=32$ $y=1000$

$x=44.5$ $y=3500$

$y = 200x + b$

$\text{slope} = \frac{2500}{12.5} = 200$

$1000 = 200(32) + b$

$b =$

$y = 32$ $x = 1000$

$y = 44.5$ $x = 3500$

$$\text{slope} = \frac{12.5}{2500} = \frac{1}{200}$$

$= 0.5\%$

$\Rightarrow y = \frac{1}{200}x + b$ $\Rightarrow 32 = \frac{1000}{200} + b$

$b = \$27$

* The price of the jewellery is independent but the price of insurance depends on the jewelry

16) slope $= \frac{7-3}{-4-6} = \frac{4}{-10} = -\frac{2}{5}$ //

ii) $5x-2y+7=0 \Rightarrow 2y = 5x + \ldots$

$y = \frac{5}{2}x + \ldots$ slope $= \frac{5}{2}$ //

b) They are perpendicular $-\frac{2}{5} \times \frac{5}{2} = -1$ or they are -ve reciprocals.

17) slope // to $\frac{5}{7}$ pass thru $(4,-3)$

$y = \frac{5}{7}x + b$

$-3 = \frac{5}{7}(4) + b$

$-3 - \frac{20}{7} = b = -\frac{41}{7}$

$y = \frac{5}{7}x - \frac{41}{7}$

$\Rightarrow \underline{5x - 7y - 41 = 0}$

b) x-int $= -3$

y-int $= 5$

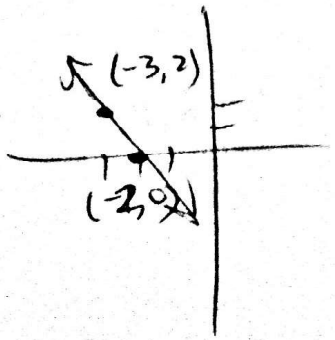
$-\frac{5}{3}x + \frac{3}{3}y = 15$

$\equiv 5x - 3y + 15 = 0$

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

numerous responses

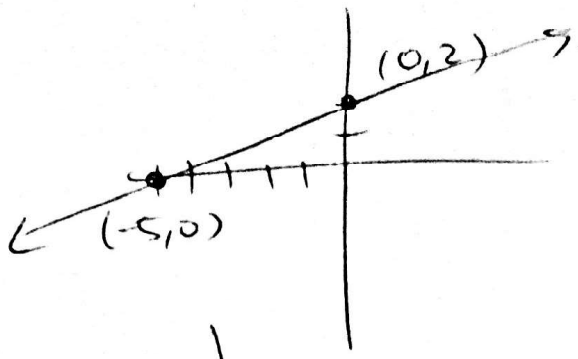
18) slope $= -2$ thru $(-3,2)$



b) $2x-5y=-10$

x-int $= -5$

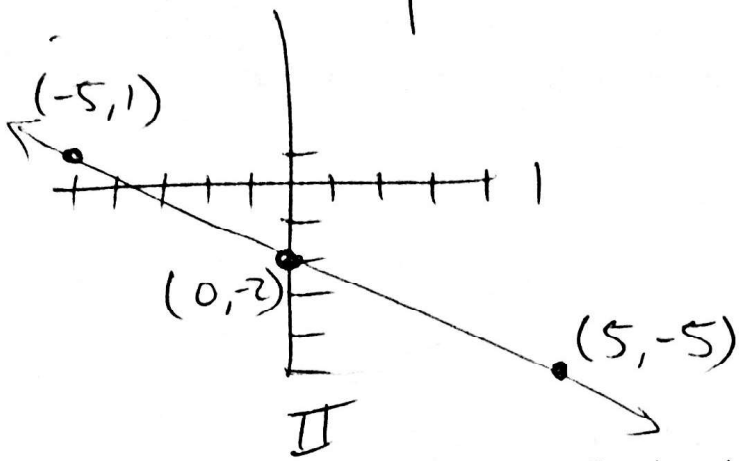
y-int $= 2$



c) $y=-\frac{3}{5}x-2$

slope $=-\frac{3}{5}$

y-int $=-2$



19. I

a) $y=\frac{3}{4}x+1$

b) $3x-4y+4=0$

c) point $(4,4)$

$4=\frac{3}{4}(4)+1$ ✓

$3(4)-4(4)+4 \overset{\checkmark}{=} 0$

II

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

b) $2x+3y-7=0$

c) point $(2,1)$

$1-3 \overset{\checkmark}{=} -\frac{2}{3}(2+1)$

$2(2)+3(1)-7 \overset{\checkmark}{=} 0$

20) let t = time in months

~~let A(t) be amount in account at time t.~~ let $A(t)$ be amount in account at time t.

$$A(t)=\underbrace{430}_{\text{start}}+\underbrace{85}_{\text{change}}t$$

$770 = 85(4) + \text{start}$

$\Rightarrow$ start $= 430$

$A(4)=770$

$A(12)=1450$

$\Rightarrow$ slope $=\frac{1450-770}{12-4}$

$=85$

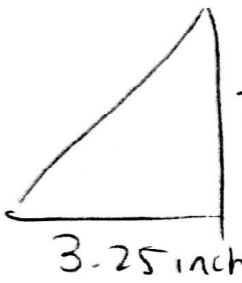
b) $A(24) = 430 + 85(24)$

$\$2470$

c) $A(T) = 4000 = 430 + 85 \cdot T$

$\Rightarrow T = 42$ months $= 3.5$ years

21)



← what I measured

$$\text{Slope} = \frac{2.5}{3.25} \times \frac{4}{4} = \frac{10}{13} = 0.769\ldots$$