

④ $m=3$ $b=-10$ $Y=3x-10$

⑤ $m=4/9$ $b=5$ $Y=\frac{4}{9}x+5$

⑥ $m=-2/11$ $b=7$ $Y=-\frac{2}{11}x+7$

⑦ GIFT CARD WORD PROBLEM

KI: \$25 GIFT CARD
BAGEL COSTS \$1.25

• Write an EQUATION

1ST DEFINE 2 VARIABLES: $X = \#$ of bagels bought
 $Y = \$$ amount left on the gift card

Write EQ:

$Y = -1.25x + 25$ or $Y = 25 - 1.25x$

EQUATION IN FUNCTION FORM $f(x) = -1.25x + 25$
remember $f(x) \leftrightarrow y$ mean the same

• How much on GC if buy 2 BAGELS?

$y = -1.25(2) + 25$

$y = 22.50$

You have \$22.50 left on the GC.

⑧ $(-3, -1) \quad m=4$

#1's 8-10 write in S/I

P/S $\Rightarrow y+1 = 4(x+3)$

$$\frac{y+1}{-1} = \frac{4x+12}{-1}$$

\rightarrow S/I $y = 4x+11$

⑨ $(-2, 1) \quad m=1$

P/S $\Rightarrow y-1 = 1(x+2)$

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

\rightarrow S/I $y = x+3$

⑩ $(8, -4) \quad m=-3$

P/S $\Rightarrow y+4 = -3(x-8)$

$$\frac{y+4}{-1} = \frac{-3x+24}{-1}$$

\rightarrow S/I $y = -3x+21$

⑪ $(4, 7) \quad (5, 1)$

$$m = \frac{\Delta y}{\Delta x} = \frac{7-1}{4-5} = \frac{6}{-1} \quad m = -6$$

#1's 11-13 write in P/S
there are 2 possible answers

P/S $y-7 = -6(x-4)$ OR $y-1 = -6(x-5)$

⑫ $(9, -2) \quad (-3, 2)$

$$m = \frac{\Delta y}{\Delta x} = \frac{-2-2}{9+3} = \frac{-4}{12}$$

$$m = -\frac{1}{3}$$

P/S $y+2 = -\frac{1}{3}(x-9)$ OR $y-2 = -\frac{1}{3}(x+3)$

⑬ $(8, -8) \quad (-3, -2)$

$$m = \frac{\Delta y}{\Delta x} = \frac{-8+2}{8+3} = \frac{-6}{11}$$

$$m = -\frac{6}{11}$$

P/S $y+8 = -\frac{6}{11}(x-8)$ OR $y+2 = -\frac{6}{11}(x+3)$

15) $m = -4$ pt $(-2, 7)$

P/s $y - 7 = -4(x + 2)$

$$\begin{array}{r} y - 7 = -4x - 8 \\ \downarrow +7 \qquad \qquad \qquad +7 \\ \hline y = -4x - 1 \end{array}$$

$$\begin{array}{r} y = -4x - 1 \\ +4x \qquad +4x \\ \hline \end{array}$$

STO $4x + y = -1$ OR $-4x - y = 2$

#15 + 16 PUT IN STD FORM:

$$Ax + By = C$$

where A, B, C are integers

16) $m = ?$ pts $(-1, -5)$ $(3, 7)$

$$m = \frac{\Delta y}{\Delta x} = \frac{-5 - 7}{-1 - 3} = \frac{-12}{-4} \quad \boxed{m = 3}$$

PICK EITHER POINT (ONLY Need to Do 1 point)

USING PT $(-1, -5)$

P/s $y + 5 = 3(x + 1)$

$$\begin{array}{r} y + 5 = 3x + 3 \\ \downarrow -5 \qquad \qquad \qquad -5 \\ \hline y = 3x - 2 \end{array}$$

$$\begin{array}{r} y = 3x - 2 \\ -3x \qquad -3x \\ \hline \end{array}$$

STO $-3x + y = -2$

OR

$$\boxed{3x - y = 2}$$

USING PT $(3, 7)$

P/s $y - 7 = 3(x - 3)$

$$\begin{array}{r} y - 7 = 3x - 9 \\ \downarrow +7 \qquad \qquad \qquad +7 \\ \hline y = 3x - 2 \end{array}$$

$$\begin{array}{r} y = 3x - 2 \\ -3x \qquad -3x \\ \hline \end{array}$$

STO $-3x + y = -2$

OR

$$\boxed{3x - y = 2}$$

PUT 18-20 IN S/I FORM
Give Both // and \perp EQUATIONS

18 (0, 2) $y = -4x + 6$

(a) // line // $m = -4$

P/s $y - 2 = -4(x - 0)$
 $y - 2 = -4x$
 $\frac{y - 2}{+2} = \frac{-4x}{+2}$

// S/I $y = -4x + 2$

(b) \perp line $\perp m = 1/4$

P/s $y - 2 = \frac{1}{4}(x - 0)$
 $y - 2 = \frac{1}{4}x$
 $\frac{y - 2}{+2} = \frac{\frac{1}{4}x}{+2}$

\perp S/I $y = \frac{1}{4}x + 2$

19 (2, -3) $y = -2x - 3$

(a) // line // $m = -2$

P/s $y + 3 = -2(x - 2)$
 $y + 3 = -2x + 4$
 $\frac{y + 3}{-3} = \frac{-2x + 4}{-3}$

// S/I $y = -2x + 1$

(b) \perp line $\perp m = 1/2$

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

\perp S/I $y = \frac{1}{2}x - 4$

20 (6, 0) $y = \frac{3}{4}x - \frac{1}{4}$

(a) // line // $m = 3/4$

P/s $y - 0 = \frac{3}{4}(x - 6)$
 $y = \frac{3}{4}x + \frac{3}{4}(\frac{-6}{1})$

// S/I $y = \frac{3}{4}x - 9/2$ or
 $y = \frac{3}{4}x - 4.5$

(b) \perp line $\perp m = -4/3$

P/s $y - 0 = -\frac{4}{3}(x - 6)$
 $y = -\frac{4}{3}x + (-\frac{4}{3})(-6)$
 $= 8$

\perp S/I $y = -\frac{4}{3}x + 8$