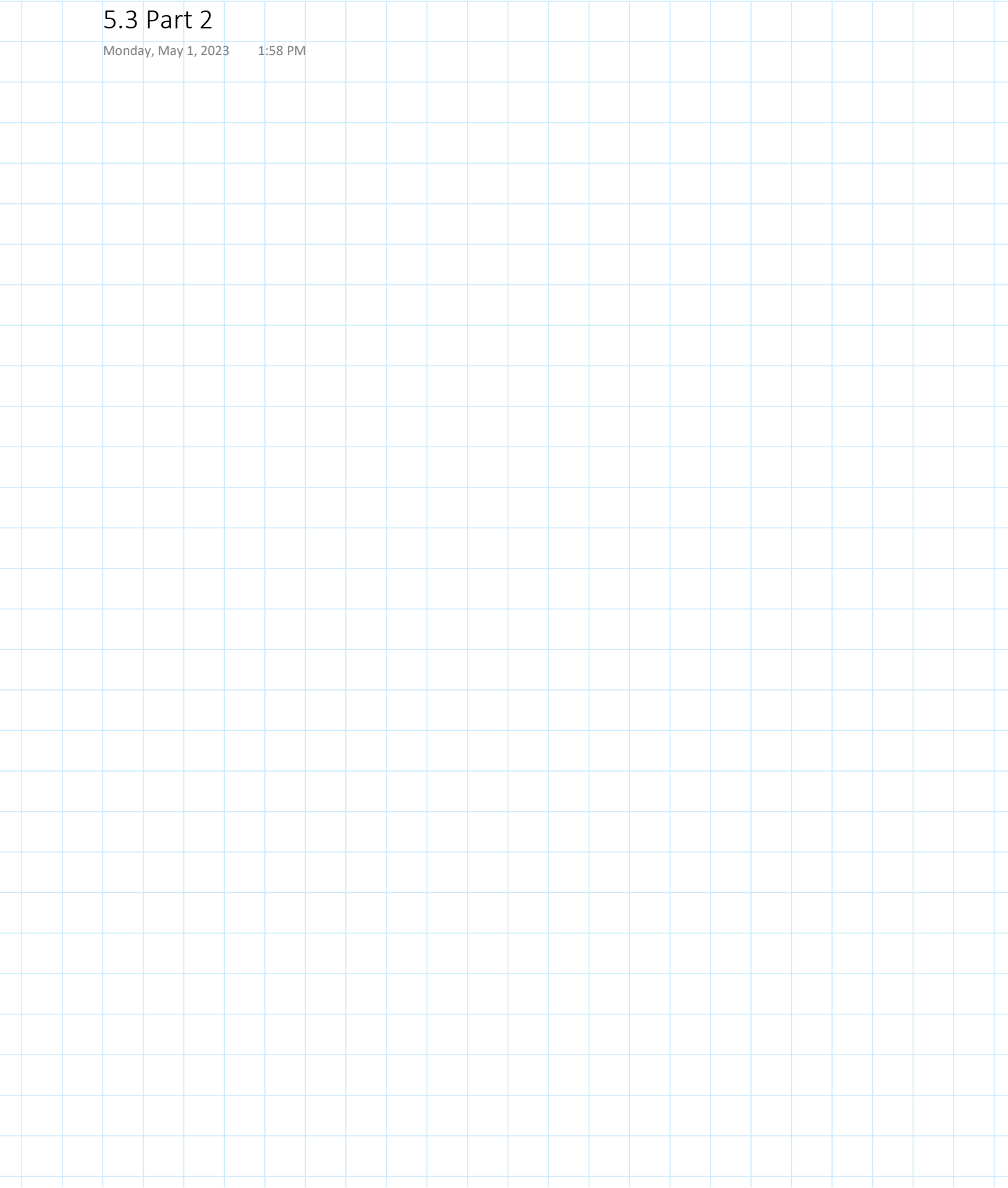


5.3 Part 2

Monday, May 1, 2023 1:58 PM



5.3 Slope Intercept Form of a Linear Function – Part 2

$$y = mx + b$$

slope = $\frac{\text{rise}}{\text{run}}$

y-intercept
(where the graph crosses the y-axis)

Example 1 : Write the equation of a linear function with:

a) a slope of $\frac{2}{5}$ and a y-intercept of -11

$$m = \frac{2}{5}$$

$$b = -11$$

$$y = mx + b$$

$$y = \frac{2}{5}x - 11$$

b) passing through the point $(0,5)$ and a slope of -1 .



y-intercept = 5
 $b = 5$

$$m = -1$$

$$y = mx + b$$

$$y = -1x + 5$$

$$y = -x + 5$$

Example 2 : The student council organized a dance. The price of a ticket was \$ 5 and the cost for the DJ was \$ 300.

a) Write an equation for the profit, P dollars on the sale of t tickets.

$$DJ = -300$$

\$5 each person

$X = \#$ of people who buy tickets

$$P = 5x - 300$$

b) If 123 people buy a ticket, what is the profit?

$$X = 123$$

$$P = 5(123) - 300$$

$$P = 615 - 300$$

$$P = \$315$$



Example 3: You work part-time as a dishwasher in a restaurant. You earn \$40 per night plus 5% of tips.

$$5\% = 0.05$$

a) Write an equation of your salary S , in dollars, if the tips are p dollars.

$$S = 40 + p(0.05)$$

$p =$ value of tips

$$S = 40 + 0.05p$$

b) How much do you earn if the tips are \$350?

$$p = 350$$

$$S = 40 + 0.05(350)$$

$$S = 40 + 17.50$$

$$S = 57.50$$

c) How much were the tips if your salary was \$65 for the shift?

$$S = 40 + 0.05p$$

$$S = 65$$

$$65 = 40 + 0.05p$$

$$\begin{array}{r} -40 \\ -40 \end{array}$$

$$\underline{25} = \underline{0.05p}$$

$$\begin{array}{r} 0.05 \\ 0.05 \end{array}$$

$$\$500 = p \quad \text{tips are } \$500.$$

Practice: p.362 #4 – 6, 8, 12 – 14, 16

Mrs. Shaw

F & PC 10