Chapter 5 Checklist

Writing Linear Equations

Are you comfortable with each type of problem listed below? If yes, complete the example and check off the box. If not, review your notes for that section, try the example and check your answer to make sure you are correct.   Any topics that you are still unsure about, you should be sure watch teacher videos for that section (if available), try using SlideShark, then follow up with the teacher to clarify any remaining questions.

Chapter 5: Write Linear Equations

5.1: Writing Equations in Slope-Intercept Form

□ I can write an equation given slope and *y*-intercept. (5.1)　　　　　**Ex:** Slope: 0, *y*-intercept: ½

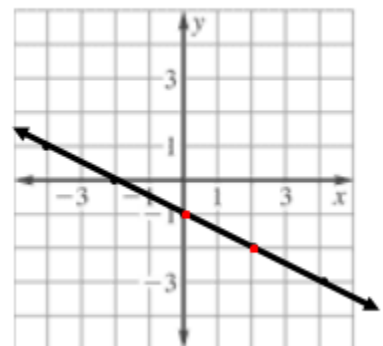□ I can write an equation given two points. (5.1)　　　　　**Ex:** (0, 5) and (1, 7)

□ I can write an equation given two function values. (5.1)　　　　　**Ex:** $f(1) = -9$ and $f(0) = -11$

□ I can write an equation given a graph. (5.1)　　　　　**Ex:**

5.2: Writing Equations in Slope-Intercept Form

☐ I can write an equation given slope and one point. (5.2)

Ex: a) Slope: 3, passes through (1, 1)

b) Slope: −5, passes through (−4, 7)

☐ I can write an equation given two points. (5.2)

Ex: a) Passes through (1, 4) and (2, 7)

b) Passes through (−2, −2) and (1, −1)

c) Passes through (−3, 1) and (−3, −1)

d) Passes through (1, 5) and (−7, 5)

e) Passes through $\left(\frac{9}{2}, 1\right)\left(-\frac{7}{2}, 7\right)$

f) $f(3) = 1, f(6) = 4$

□ I can find relevant information in word problems to write an equation of the line to represent the situation. (5.2)

Ex: You have a subscription to an online magazine that allows you to view 25 articles from the magazine's archives. You are charged an additional fee for each article after the first 25 articles viewed. After viewing 28 articles, you paid a total of $34.80. After viewing 30 articles, you paid a total of $40.70.

    a. What is the cost per archived article after the first 25 articles viewed?

    b. What is the cost of the magazine subscription?

Ex: A delivery service charges a base price for an overnight delivery of a package, plus an extra charge for each pound the package weighs. A customer is billed $22.85 for shipping a 3-lb package and $40 for shipping a 10-lb package.

    a. Write an equation that gives the total cost for shipping a package of any weight.

    b. Then find the cost of shipping a 15-lb package.

5.5: Write Equation of Parallel and Perpendicular Lines

□ I can write equations of parallel lines using given information (5.5)

  Ex: Write the equation of the line that is parallel to $-6x + y = -1$ and passes through the point $(1, 7)$

□ I can write equations of perpendicular lines using given information (5.5)

  Ex: Write the equation of the line that is perpendicular to $y + 3 = 2x$ and passes through the point $(-5, 2)$

□ I can determine, using equations of lines, if line are parallel or perpendicular (5.5)

  Ex: Determine which lines, if any, are parallel or perpendicular:

  a. $y = \dfrac{3}{5}x + 1$ b. $5y = 3x - 2$ c. $10x - 6y = -4$

5.4: Write Equations of Lines in Standard Form

□ I can write equivalent equations in standard form. (5.4)

Ex: Write two equivalent equations:
$$3x - 6y = 9$$

□ I can write equations in standard form. (5.4)

Ex: a) Passes through (4, 4) and (8, 2)

b) Passes through (−2, 3) and (−4, −5)

□ I can write equations of horizontal and vertical lines. (5.4)

Ex: a) Write the horizontal equation through (7, 2)

b) Write the vertical equation through (−4, 5)

□ I can complete equations in standard form. (5.4)

Ex: a) $5x + By = 6$ passes through $(2, 1)$

b) $Ax + 5y = 7$ passes through $(4, 3)$