**OBJECTIVE**: Demonstrate an understanding of the characteristics of functions with an emphasis on linear functions.

***MONDAY, 8.19.24:***

**Discuss** the previously assigned homework.

**OBJECTIVE**: Demonstrate an understanding of the characteristics of functions with an emphasis on linear functions.

**Technology:** Graphing calculator (TI-83 or TI-84).

* **NOTES\_\_\_\_\_ Linear Models.**
1. Formula for finding the **Slope of a Line**: slope = m = y2 – y1 .

 x2 – x1

1. **Slope-Intercept Linear Form**: y = mx + b, where *m* is the slope and *b* is the y-intercept.
2. **Point Slope Linear Form**: y – y1 = m (x – x1), where *m* is the slope and (*x1, y*1) is any point on the line.
3. **General Linear Form:** Ax + By = C, where m = -A/B, the x-intercept = C/A, and the y-intercept = C/B.

 **(5)** 2 lines that are **parallel** will have the same slope.

1. 2 lines that are **perpendicular** will have slopes that are negative reciprocals of each other.

 Also, the product of their slopes will be -1.

**CLASS WORK/HOMEWORK: Show all work for #1 – 8 below.**

|  |  |
| --- | --- |
| **(1)**  **Find the slope and *y*-intercept for the equation 3*y* = -9*x* + 15.**(a) Use slope-intercept linear form to do this.(b) Use general linear form to do this.  | **(2)**  **Find the equation of the line whose slope is 4 and crosses the *y*-axis at (0,2).**  |
| **(3)**  **Given that the slope of a line is -3 and the line passes through the point (-2,4), write the equation of the line.** a) Use slope-intercept linear form to do this.b) Use point-slope linear form to do this. | **(4)**  **Find the slope of the line that passes through the points (-3, 5) and (-5, -8).**    |
| **(5)**  **Given that the line is parallel to *y* = 4*x* + 5 and passes through the point (-2, 4), write the equation of the line.**   | **(6)**  **Given 2*y* = 6*x* + 12 and 3*y* + *x* = 15, determine if the lines are parallel, perpendicular, or neither.**  |
| **(7) (a) Graph x = 4.****(7) (b) Graph y = 4.****(7) (c) Graph x = 0.****(7) (d) Graph y = 0.** | **(8) (a) Graph y = x/3 + 5.****(8) (b) Graph -2x + 3y = 6.** |

***WEDNESDAY, 8.21.24:***

**Discuss the 8 problems previously assigned on Monday.**

**Class Work/Homework:**

Page 163, Quick Review, #1-10.

Page 163, Exercises, #7-12.

Page 167, #77, 78, 81

**Class Work/Homework: Review \_\_** Functional Operations and Linear Functions (to be received in class)

***FRIDAY, 8.23.24:***

**Discuss the previously assigned work.**

**Class Work/Homework: Extra Practice \_\_** Functional Operations and Linear Functions (to be received in class)