

**[09-12-08-RT8]***Straight line*

---

**■ A. Two points determine a line.**

- [1] Graph the line through the points (2, 3), (3, 5).
- [2] Graph the line through the points (−2, −3), (2, 4).
- [3] Graph the line through the points (−2, −5), (−3, −5).
- [4] Graph the line through the points (−2, −5), (3, −5).

**■ B. A slope and a point determine a line.**

- [1] Graph the line through the point (2, 3) having slope  $\frac{2}{3}$ .
- [2] Graph the line through the point (2, 3) having slope  $-\frac{2}{3}$ .
- [3] Graph the line of slope  $-\frac{3}{5}$  through the point (3, 5).
- [4] Graph the line of slope 3 through the point (3, 5).
- [5] Graph the line through the point (2, 3) having slope  $\frac{1}{4}$ .
- [6] Graph the line through the point (0, 3) having slope  $\frac{1}{4}$ .
- [7] Graph the line through the point (0, −4) having slope −2.

**■ C. The graph of the linear function  $y = mx + b$  is a line of slope  $m$  with  $y$ -intercept  $b$ .**

- [1] Graph the function  $y = 2x + 3$
- [2] Graph the function  $y = x + 5$
- [3] Graph the function  $y = -x + 2$
- [5] Graph the function  $y = -2x + 4$
- [6] Graph the function  $y = -3x$
- [7] Graph the function  $y = -\frac{3}{5}x - 1$
- [8] Graph the function  $y = \frac{1}{3}x - 5$

■ The slope of a line is equal to  $\frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$ .

- [1] What is the slope of the line through the points (2, 5), (7, 3).
- [2] What is the slope of the line through the points (3, 5), (1, 14).
- [3] What is the slope of the line through the points (-2, -5), (7, 3).
- [4] What is the slope of the line through the points (-2, 5), (-7, 3).
- [5] What is the slope of the line through the points (-2, -5), (-7, 3).