Slope and Y-Intercept of the Graph of a Line

1. Consider a line that passes through the two points $(0,5)$ and $(4,11)$.

Now look at the data table and graph below.
a. Sketch in the line that passes through the two given points.
b. Identify the $y$-intercept of the line.
c. Show how to determine the slope of the line.
d. Write an equation for the line.
e. Show how to find the value of $\mathbf{y}$ when $x=3$.

| $\Delta x$ | $x$ | $y$ | $\Delta y$ |
| :---: | :---: | :---: | :---: |
|  | 0 | 5 |  |
|  | 4 | 11 |  |


2. Suppose a line has slope -2 and y-intercept 10 .
a. Write an equation for the line.
b. Complete the table and graph below.

| $x$ | $y$ |
| :---: | :---: |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |



