**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per.\_\_\_\_\_\_\_**

**U8 CW #2b**  *Linear and Non-Linear Functions*

1. Sketch the general appearance of the graph of the equation $y=mx+b$.
	1. What do *m* and *b* represent?

b. What makes the graph linear?

**Directions:** Examine the equations and graphs to determine if they are linear or non-linear. Justify your thinking.



|  |  |
| --- | --- |
| $$y=x $$ | $y=6$ |
| Linear Non-linearJustify: | Linear Non-linearJustify: |
| $$y=x^{2}$$ | $$y=\left|x\right|$$ |
| Linear Non-linearJustify: | Linear Non-linearJustify: |
| $$x+y=6$$ | $y=\frac{1}{x}$ |
| Linear Non-linearJustify: | Linear Non-linearJustify: |
| $$y=\sqrt{x}$$ | $y=2^{x}$ |
| Linear Non-linearJustify: | Linear Non-linearJustify: |

 Based on the graph and the equation how can you tell if a line will be linear or non-linear?