MPM 1DI $\qquad$

1. Calculate the first differences. Determine whether the relationship is linear or non-linear. Explain how

| $X$ | $Y$ |
| :---: | :---: |
| 0 | 15 |
| 3 | 11 |
| 6 | 7 |
| 9 | 3 |
| 12 | -1 |
| 15 | -5 |
| 18 | -9 | you know.

2. a) Calculate the slope of the graph below.

b) Calculate the slope from the table of values.

| $x$ | $y$ |
| :---: | :---: |
| 0 | 80 |
| 5 | 70 |
| 10 | 60 |
| 15 | 50 |

c) Interpret the meaning of the slope (rate of change) in 2(a)
3. Graph a line with slope -3 on the grid below. (Start at the point already plotted for you.)

4. A line has a slope of $\frac{1}{4}$ and goes through the point $(-4,-3)$. What is another point on that line? (you may do this graphically or algebraically)


