BECA / IB Math 02-Descriptive Stats Name:
1 December 2021

2.4 Review: I can model arithmetic sequences

Simple interest: $I = Crt$

1. The rate on a credit card is 18% per annum. Find the interest due on a \$400 purchase after one month.

2. Expand the following expression:
   $\sum_{n=1}^{3}(3n+1) =$

   Equations of a straight line: $f(x) = mx + c$, $ax + by + d = 0$, $(y - y_1) = m(x - x_1)$

   Gradient: $m = \dfrac{y_2 - y_1}{x_2 - x_1}$

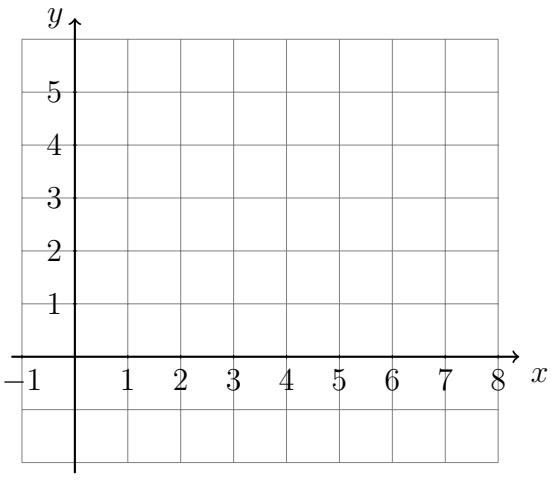
3. Given the linear function $f(x) = -x + 5$.

   (a) Write down it's slope.
   $m =$

   (b) Write down it's y-intercept.
   $b =$

   (c) Draw the function f on the grid.

   (d) Label the x-intercept with its coordinates as an ordered pair.



4. Find the slope of the line through the points $A(-1, 3)$, $B(4, -7)$.

Arithmetic sequences

Terms: $u_n = u_1 + d(n-1)$

Sum: $S_n = \frac{n}{2}(u_1 + u_n)$

5. Given the arithmetic sequence $12, 8, 4, 0, -4, \ldots$

   (a) Find the common difference d.

   (b) Write down the next term, u_6.

   (c) Find the nineth term.

   (d) Find the sum of the first nine terms.

6. In an arithmetic sequence the first term is 6 and the fourth term is 24.

   (a) Find the common difference d.

   (b) Find the tenth term, u_{10}.

   (c) Find the sum of the first ten terms.