TMATH 124: Quiz 2
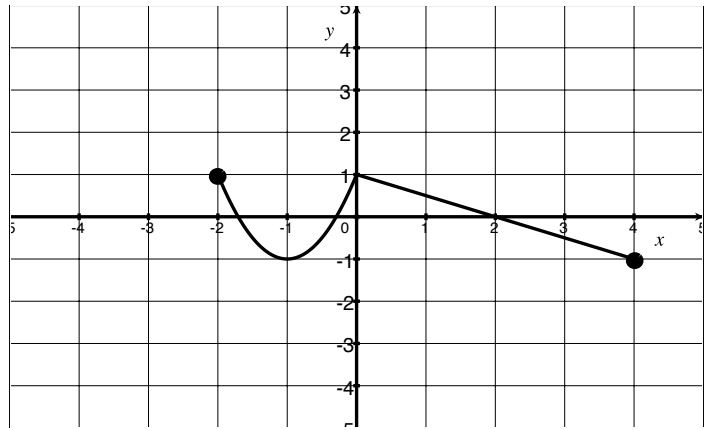
Reasonable supporting work must be shown to earn credit.

1. [3] Find the algebraic (piece-wise defined) formula for the graph of m given below:

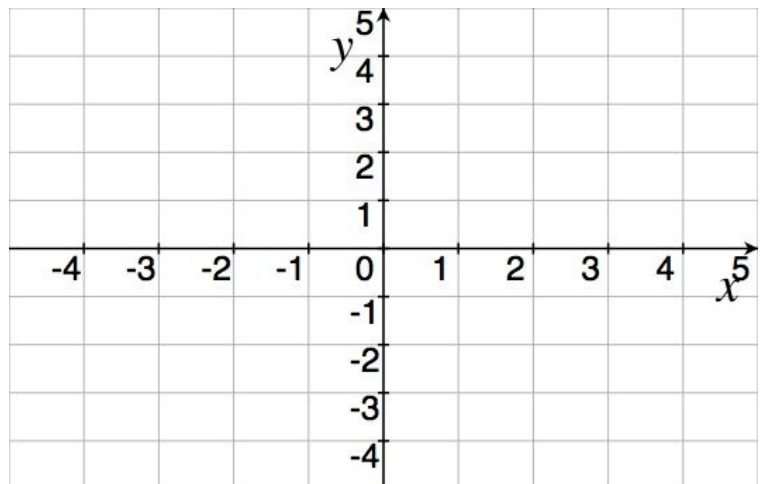$$m(x) = \begin{cases} ? & \text{if } -2 \le x < 0 \\ ? & \text{if } 0 \le x \le 4 \end{cases}$$

2. [4] Sketch the graph of a function β that satisfies *all* of the following.

(a) $\lim\limits_{x \to \infty} \beta(x) = 3$

(b) β is not continuous at $x = 2$.

(c) $\lim\limits_{x \to -3} \beta(x) = -\infty$

3. [3] Comparing the average cost of a product with the revenue the produce creates can help business owners increase profit (see TBECON220). One business found the cost, C, of making x units was well approximated by the function $C(x) = 3.25x + 5500$. Find the limit (numerically, graphically, or algebraically) of the average cost of a product as production ramps up to larger and larger numbers.