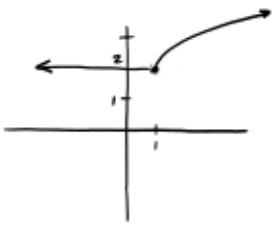
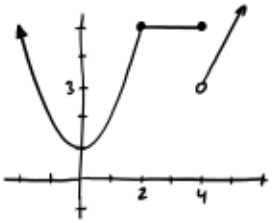
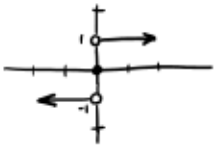
(1a) $g(x) = \begin{cases} 2 & \text{for } x < 1 \\ 1+\sqrt{x} & \text{for } x \geq 1 \end{cases}$



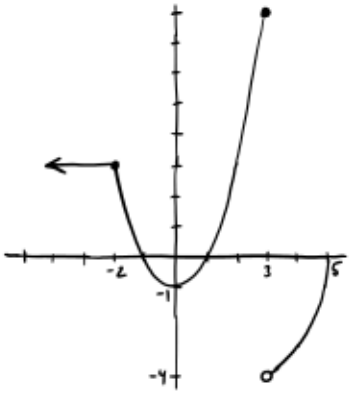
(1b) $f(x) = \begin{cases} x^2+1 & \text{for } x < 2 \\ 5 & \text{for } 2 \leq x \leq 4 \\ 2x-5 & \text{for } x > 4 \end{cases}$



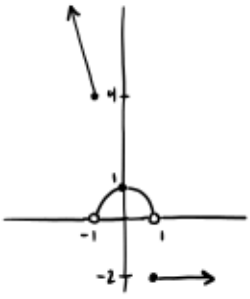
(1c) $f(x) = \begin{cases} -1 & \text{if } x < 0 \\ 0 & \text{if } x = 0 \\ 1 & \text{if } x > 0 \end{cases}$



(1d) $f(x) = \begin{cases} 3 & \text{if } x \leq -2 \\ x^2-1 & \text{if } -2 < x \leq 3 \\ -\sqrt{25-x^2} & \text{if } x > 3 \end{cases}$



(1e) $f(x) = \begin{cases} -4x & , x \leq -1 \\ \sqrt{1-x^2} & , -1 < x < 1 \\ -2 & , x \geq 1 \end{cases}$



(1f) $f(x) = \begin{cases} 4-x^2 & , x < -1 \\ -2 & , x = -1 \\ \sqrt{4-x^2} & , x > -1 \end{cases}$