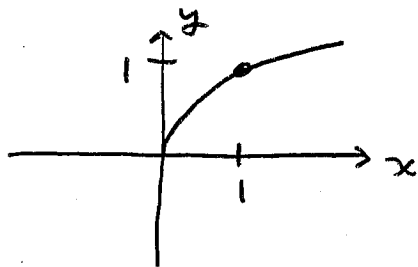
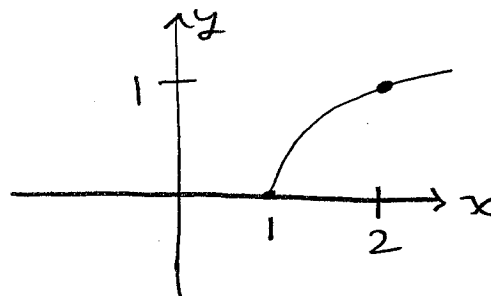


(1) [8 points] Neatly sketch the graph of the function $f(x) = \sqrt{x-1} + 2$

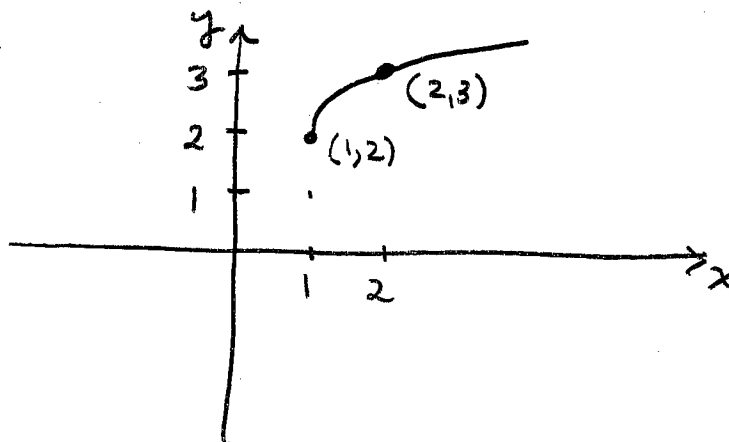
① $y = \sqrt{x}$



② $y = \sqrt{x-1}$

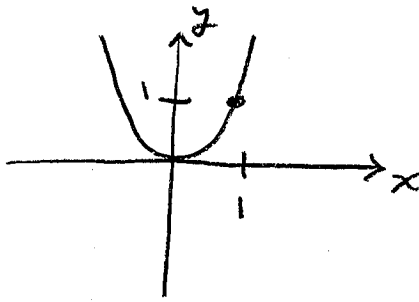


③ $y = \sqrt{x-1} + 2$

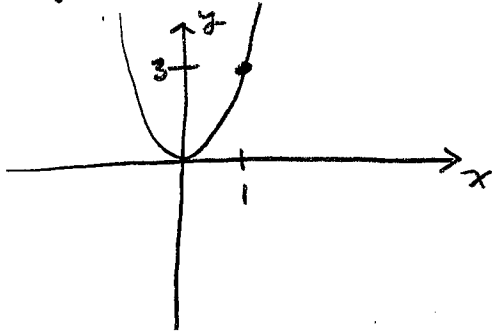


(2) [7 points] Neatly sketch the graph of the function $f(x) = 3(x-1)^2 + 2$

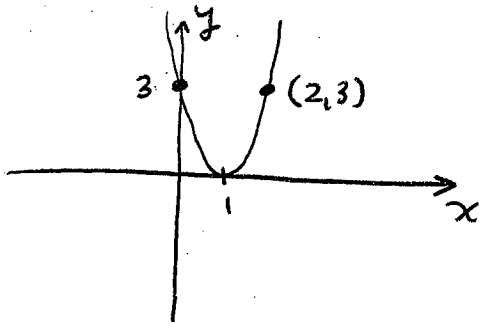
① $y = x^2$



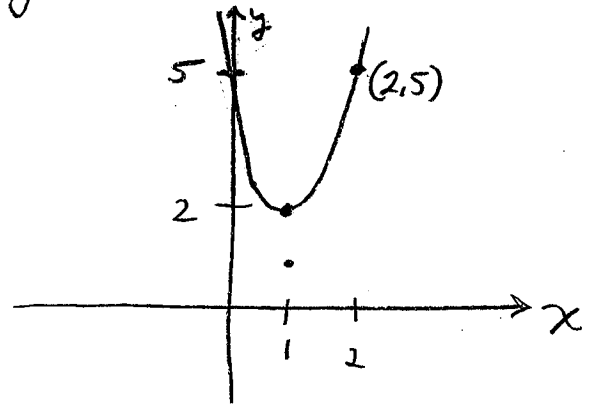
② $y = 3x^2$



③ $y = 3(x-1)^2$



④ $y = 3(x-1)^2 + 2$



(3) [5 bonus points] Reduce to lowest terms:

$$\frac{x^3 + x^2}{x^3 + 1}$$

$$= \frac{x^2(x+1)}{(x+1)(x^2-x+1)}$$

$$= \frac{x^2}{x^2-x+1}$$