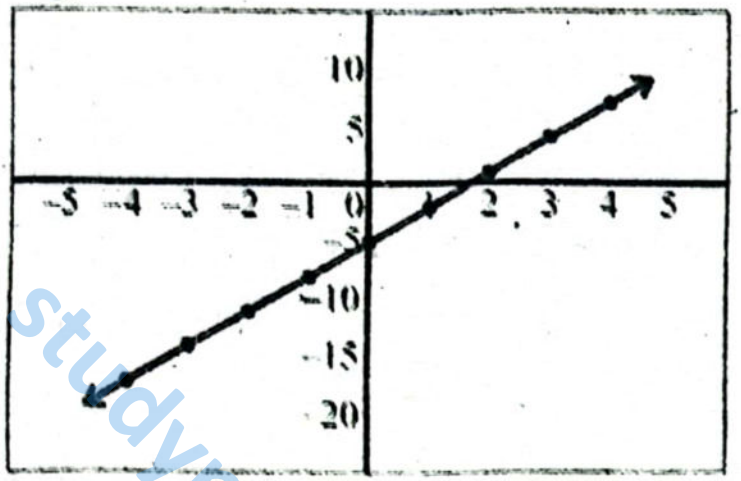
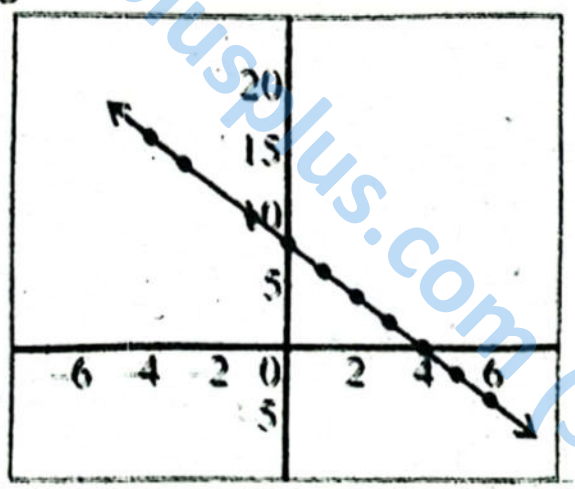
Exercise 10.1

1. Sketch the graph of the following linear functions:

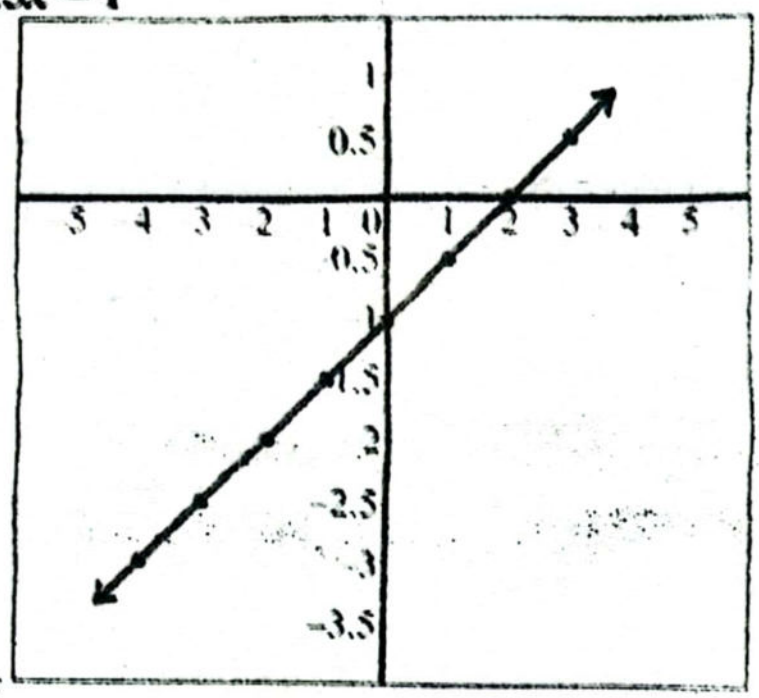
(i) $y = 3x - 5$



(ii) $y = -2x + 8$



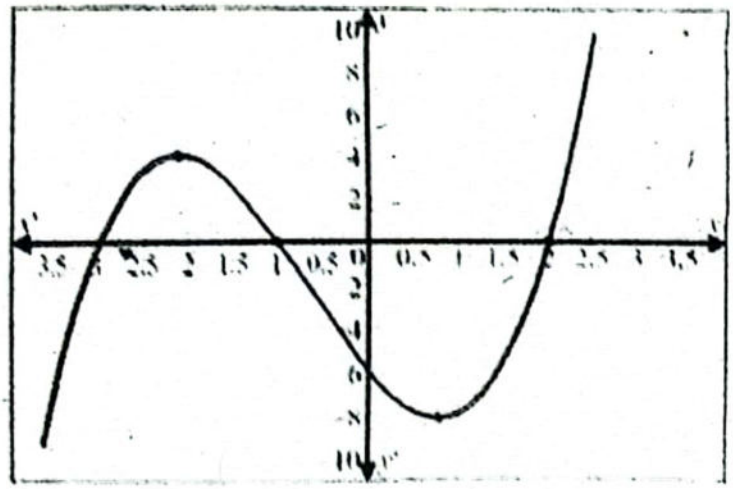
(iii) $y = 0.5x - 1$



2. Plot the graph of the following quadratic and cubic functions:

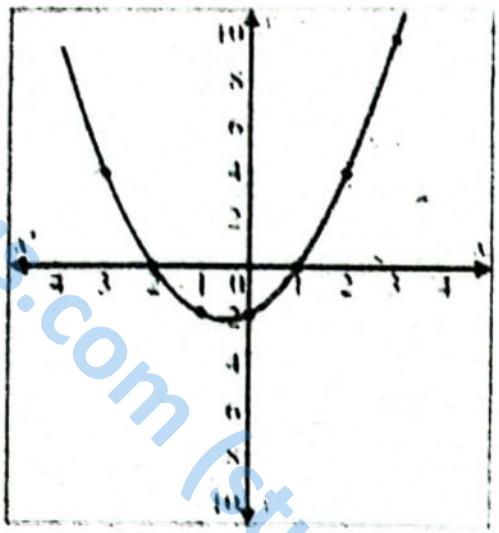
(i) $y = x^3 + 2x^2 - 5x - 6; -3.5 \leq x \leq 2.5$

x	y
0	−6
1	−8
−1	0
2	0
−3	0



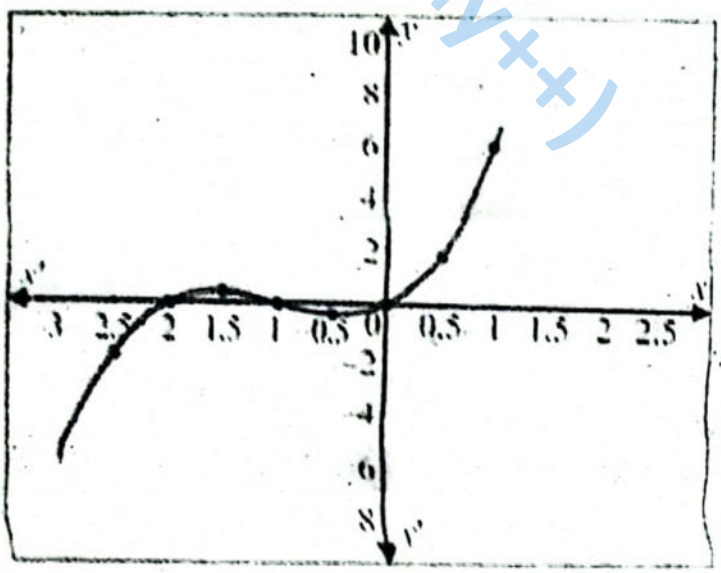
(ii) $y = x^2 + x - 2$

x	y
0	−2
1	0
2	4
−2	−2



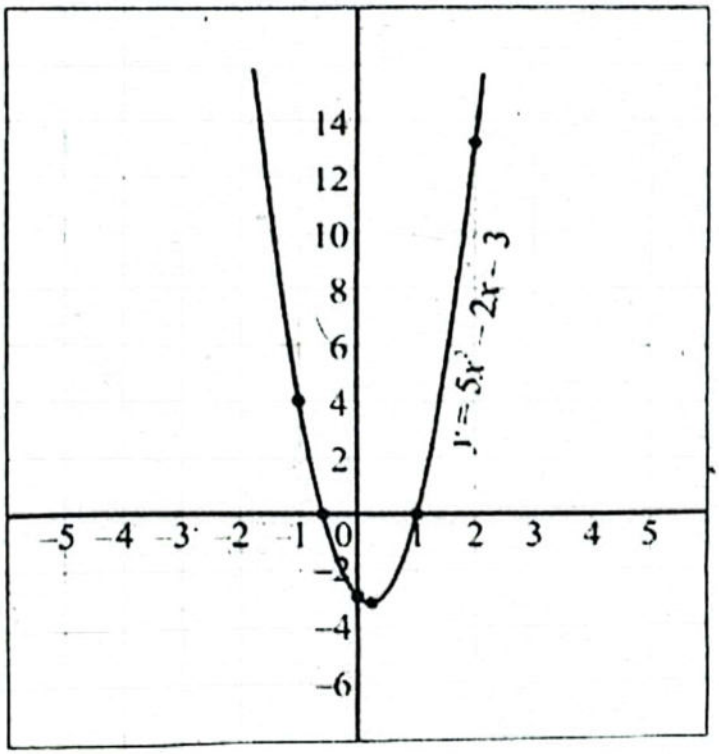
(iii) $y = x^3 + 3x^2 + 2x; -2.5 \leq x \leq 0.5$

x	y
0	0
1	6
−1	0
−2	0



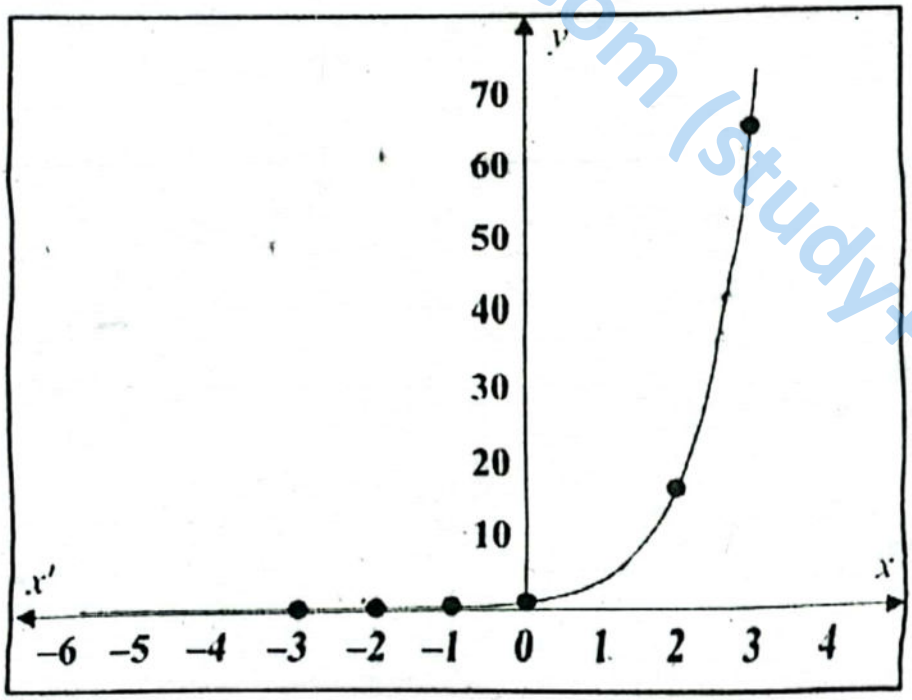
(iv) $y = 5x^2 - 2x - 3$

x	y
0	−3
1	0
−1	3
2	13

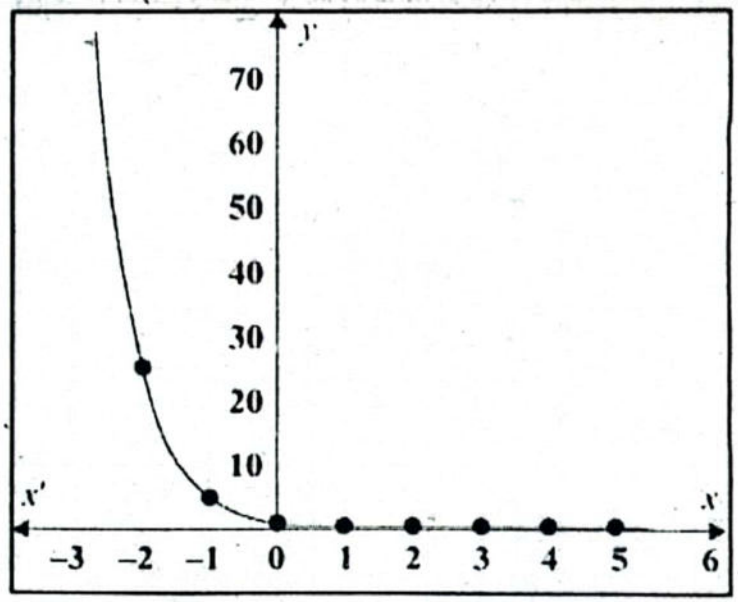


3. Plot the graph of the following functions:

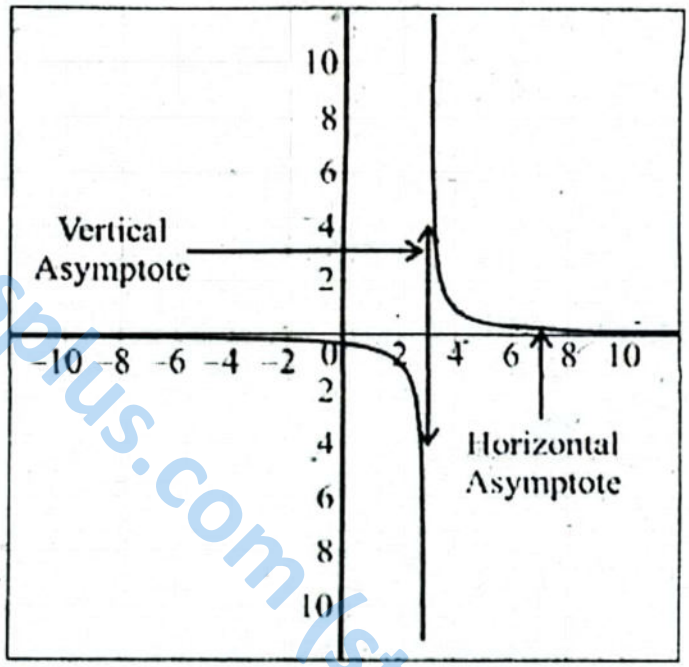
(i) $y = 4^x$



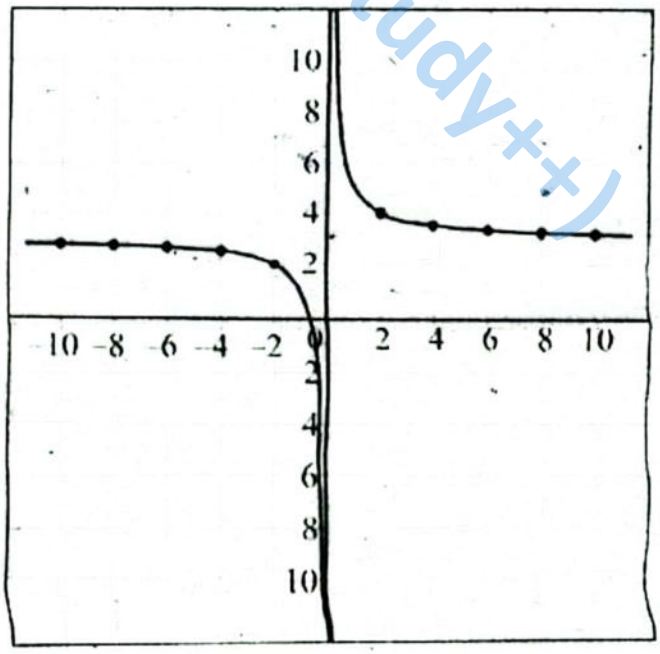
(ii) $y = 5^{-x}$



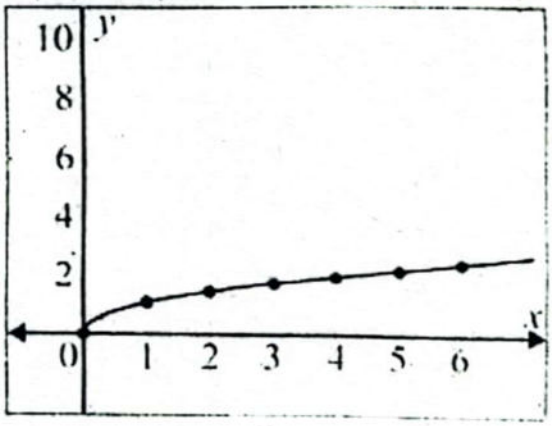
(iii) $y = \frac{1}{x-3}, x \neq 3$



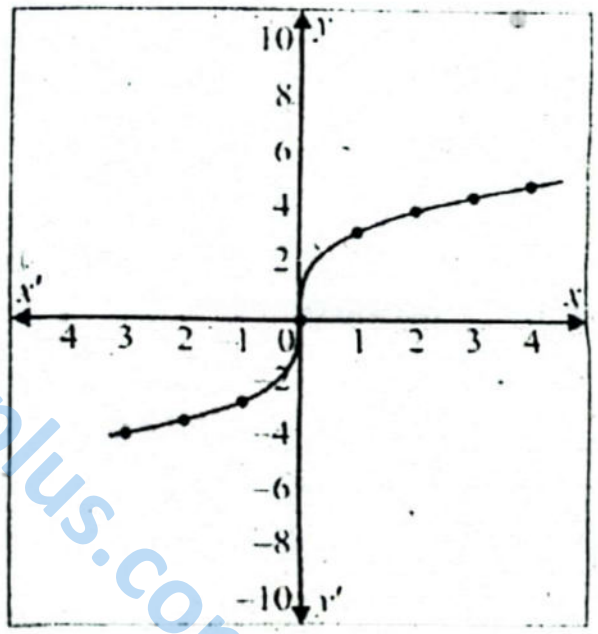
(iv) $y = \frac{2}{x} + 3, x \neq 0$



(v) $y = x^{\frac{1}{2}}$



(vi) $y = 3x^{\frac{1}{3}}$



(vii) $y = 2x^{-2}$