

Review - Graphing Polynomial Functions

1 a. $f'(x) = 6x - 4$

b. $f'(x) = -3x^2$

2 a. $V' \doteq 942 \text{ cm}^3 / \text{cm radius}$

b. $V' \doteq 131 \text{ cm}^3 / \text{cm height}$

3 a. 6 m/s

b. $t \doteq 0.9 \text{ s}$ and 3.8 s

4 a. $y = -5x - 10$

b. $y = 4x + 2$

5. local minimum at $(0.8, -2.2)$

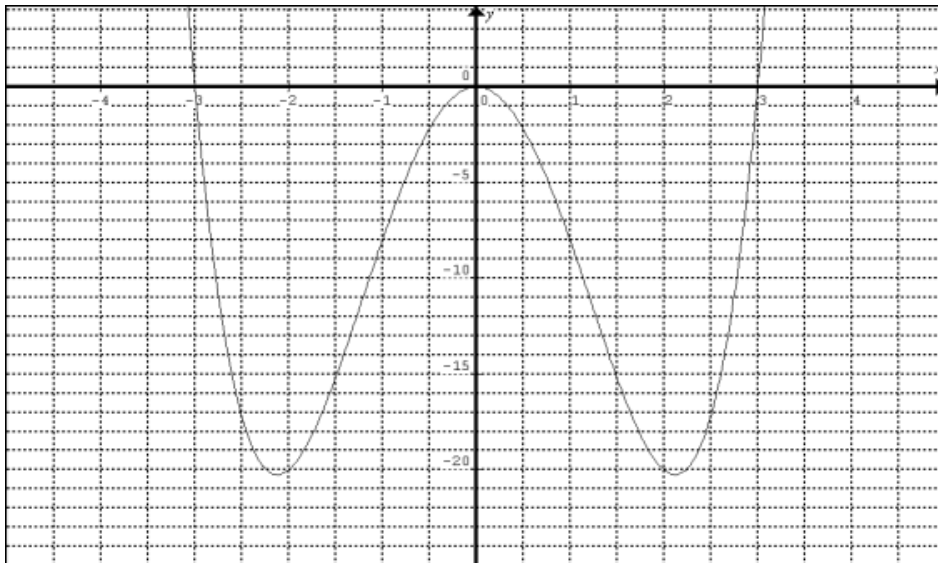
local maximum at $(-0.8, 2.2)$

function is increasing for $x \in (-\infty, -0.8) \cup (0.8, \infty)$

decreasing for $x \in (-0.8, 0.8)$

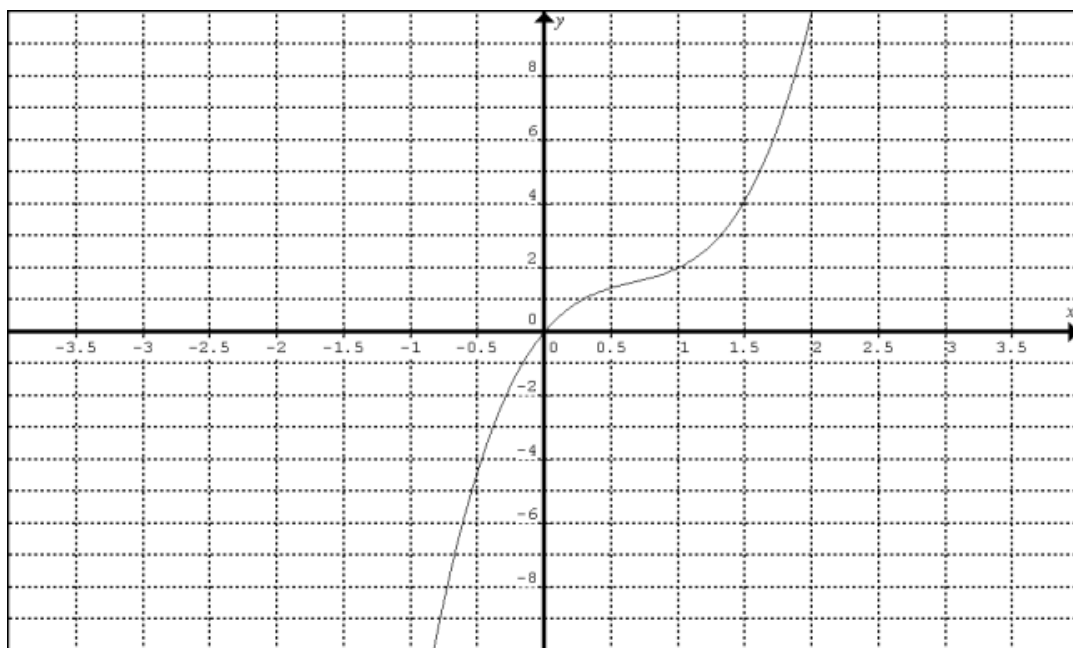
6. p.108 # 14 b)

- y-intercept = 0
- x-intercepts = 0, -3, 3
- function is decreasing for $x \in (-\infty, -2.1) \cup (0, 2.1)$
increasing for $x \in (-2.1, 0) \cup (2.1, \infty)$
- local minima at $(-2.1, -20.2)$ and $(2.1, -20.2)$
- local maximum at $(0, 0)$



p.108 # 14 c)

- y-intercept = 0
- x-intercept = 0
- no local maximum or minimum points
- function is increasing everywhere, $x \in (-\infty, \infty)$



p.108 # 14 d)

- y-intercept = -3
- x-intercepts = 1, 1.5
- local maximum at (1, 0)
- local minimum at (1.3, -0.04)
- function is increasing for $x \in (-\infty, 1) \cup (1.3, \infty)$
decreasing for $x \in (1, 1.3)$

