1. [Not covered]

2. a) $q(0) = 0 + a_1(0)^2$

$$= 0$$

$q'(0) = 1 + 2a_1(0)$

$$= 1$$

$q(1) = a_2(1-1)^2 + 1$

$$= 1$$

$q'(1) = 2a_2(1-1)$

$$= 0$$

b) $P_1(\frac{2}{3}) = P_2(\frac{2}{3})$

$$\frac{2}{3} + \frac{4}{9}a_1 = \frac{1}{9}a_2 + 1$$

$$4a - b = 3$$

c) $P_1'(\frac{2}{3}) = P_2'(\frac{2}{3})$

$$1 + \frac{4}{3}a_1 = -\frac{2}{3}a_2$$

$$4a + 2b = -3$$

d) $4a - b = 3$

$- \quad 4a + 2b = -3$

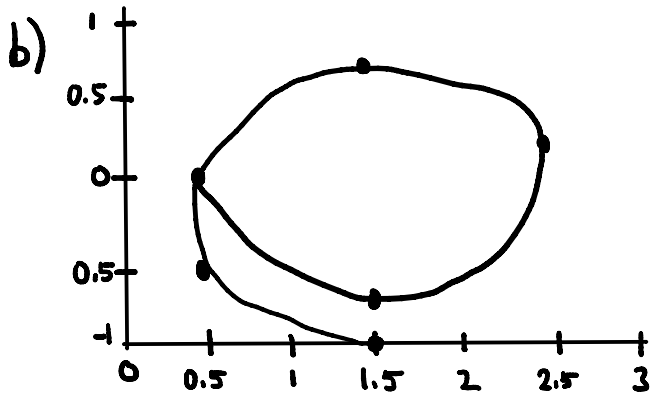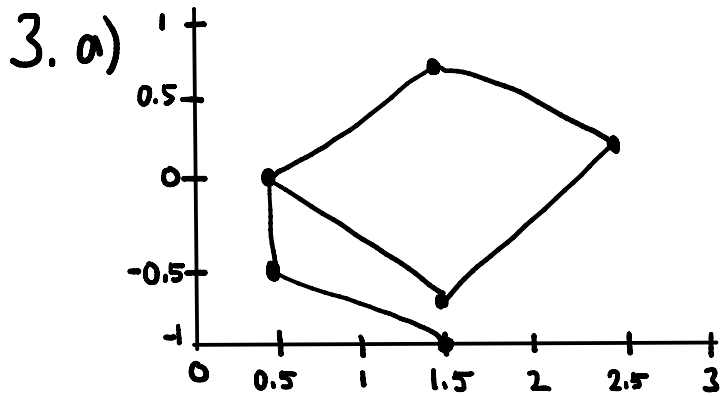$$\overline{\qquad\qquad}$$

$$-3b = 6$$

$$b = -2$$

$$a = 1/4$$

e) $q(x_2) = \frac{2}{8} + \frac{1}{4}\left(\frac{2}{2}\right)^2$

$\qquad = 7/9$

3. a)

b)

c) [Not covered]

d) [Not covered]

4. a) $E = \frac{1}{2}\beta^{1-t}$

$\qquad = 5 \cdot 10^{-4}$

b) $0.0001 \cdot 10^{-3}$

c) $0.1284 \cdot 10^{-2}$

d) $9.123 \oplus 3.714$

$$= 0.9123 \cdot 10^{-1} + 0.3714 \cdot 10^{-1}$$

$$= fl(1.2837 \cdot 10^{-1})$$

$$= 0.1284 \cdot 10^{-2}$$

5. [Not covered]

6. [Not covered]

7. [Not covered]