

Q1 (wk 7)

t	0	1	2	3	4	5	6	7
n	50	100	P	400	800	1600	q	6400

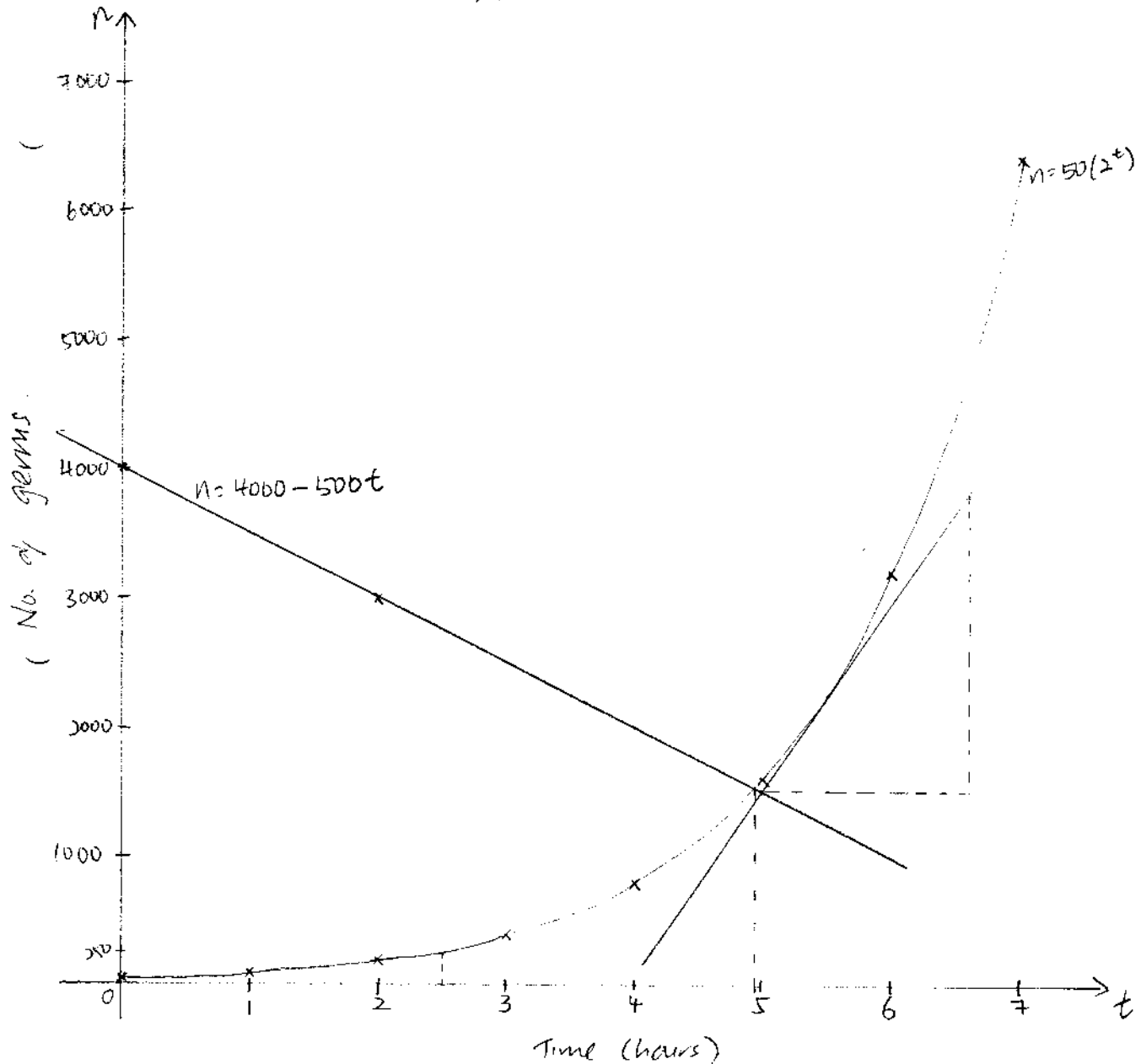
$$n = 50(2^t)$$

$$(a) P = 50(2^2)$$

$$= 200 \text{ \#}$$

$$q = 50(2^6)$$

$$= 3200 \text{ \#}$$



c) Gradient = $\frac{2300}{1.6} = 1437.5$ germs/hr.

The rate of increase of the germs at $t = 5.5$ hrs.

d) No. of germs after 2.5 hrs is 250

e) Time when the population in the 2 colonies are equal = 4.95 hr.

Q2 (wk 7)

x	0.25	0.5	1	2	3	4	5	6
y	10	6	4	A	2.67	2.5	b	2.33

$$y = 2 + \frac{2}{x}, \text{ (a) } A = 2 + \frac{2}{2} = 3 \text{ \#}$$

$$B = 2 + \frac{2}{5} = 2.4 \text{ \#}$$

$$\text{(c) Gradient} = -\frac{2.4}{1.5} = -1.6 \text{ \#}$$

$$\text{(d) } \frac{2}{x} = 4 - x$$

$$2 + \frac{2}{x} = 6 - x$$

$$\text{Draw } y = 6 - x$$

$$x = 0.55 \text{ and } 3.45 \text{ \#}$$

