

$$y = ac^x \quad \text{vs} \quad y = ac^{bx}$$

a: initial value

c: multiplier (base)

x: usually time

b: multiplier rate

p. 82

$$\#9. a) y = 250(2)^{2x}$$

After 2 hours, should be 500

$$y = 250(2)^{2(2)}$$

$$y = 250(16) = 4000$$

$$y = 250(2)^{\frac{1}{2}x}$$

← once every two hours

$$b) y = 250(1.25)^{6x}$$

← six times per hour

$$c) y = 250(0.96)^{2x}$$

$$d) y = 250(3)^{24x}$$

After 1 day  $x = 24$ 

$$y = 250(3)^{24(24)}$$

$$y = 250(3)^{576}$$

$$y = 250(3)^{\frac{1}{24}x}$$

## Parameter "b", multiplier rate

	x is time (in minutes)	x is time (in hours)	x is time (in days)
every hour	$\frac{1}{60}$	1	24
twice an hour	$\frac{2}{60} = \frac{1}{30}$	2	48
every day	$\frac{1}{1440}$	$\frac{1}{24}$	1
6 times a day			
every two days			

p. 83 # 13-17

p. 82

$$\# 10. \quad y = a(2)^{3x}$$

$$20480 = a(2)^{3(4)}$$

$$20480 = a(2)^{12}$$

$$\frac{20480}{4096} = \frac{4096a}{4096}$$

$$5 = a$$

$$\#11. \quad y = 240c^x$$

$$\frac{269.97}{240} = \frac{240c^3}{240}$$

$$1.124875 = c^3$$

$$\sqrt[3]{1.124875} = c$$

$$1.04 = c$$

Inflation rate is %.

therefore the rate is 4%.