

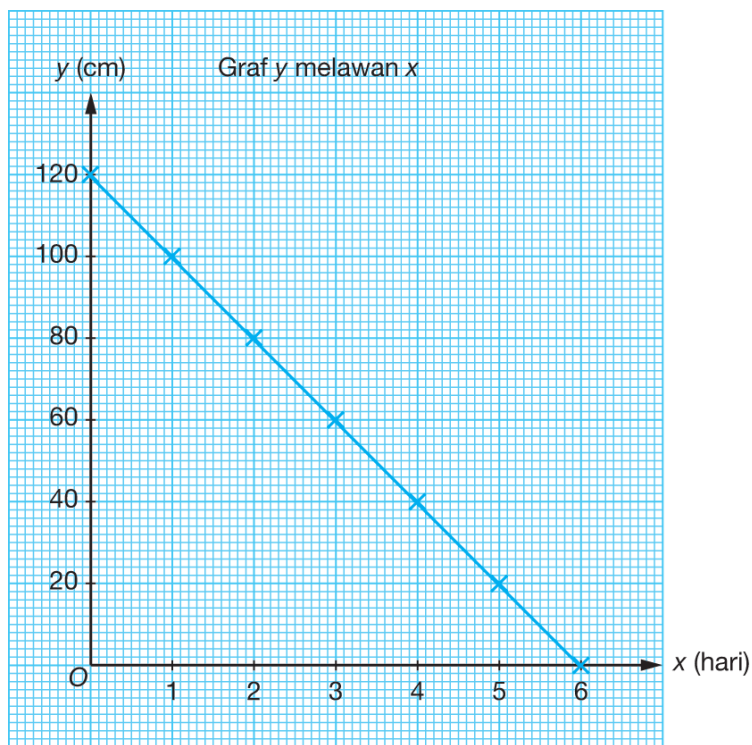
Praktis Formatif 8.1

1 (a) x mewakili bilangan hari dan y mewakili tinggi salji (cm).

(b)

Bilangan hari (x)	0	1	2	3	4	5	6
Tinggi salji (y cm)	120	100	80	60	40	20	0

(c)



(d) Kecerunan = $-\frac{120}{6} = -20$

Pintasan- $Y = 120$

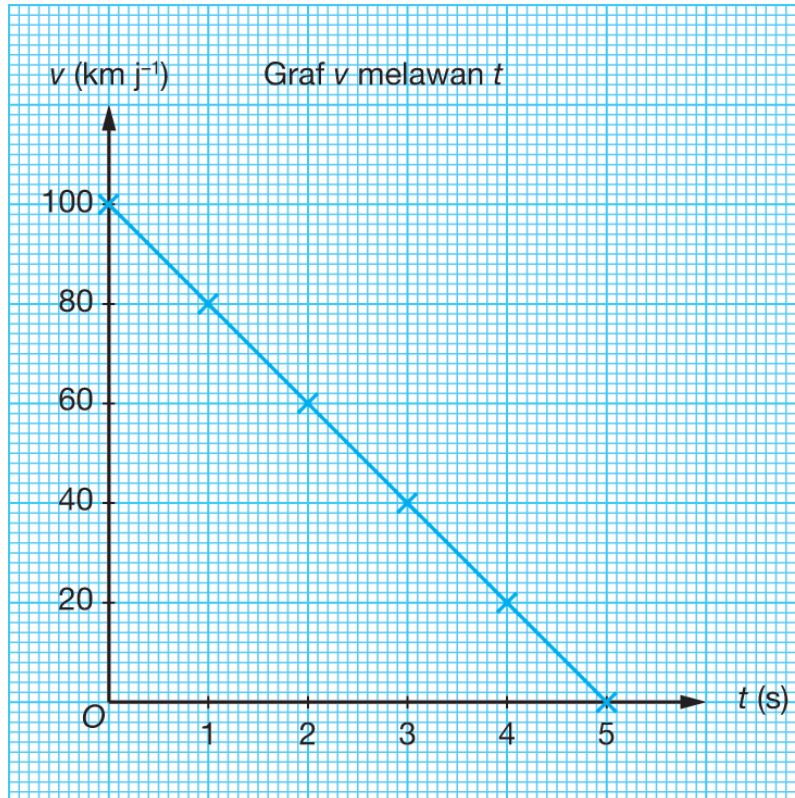
$\therefore y = -20x + 120$

2 (a) v mewakili laju, dalam km j^{-1} dan t mewakili masa, dalam saat.

(b)

Laju ($v \text{ km j}^{-1}$)	100	80	60	40	20	0
Masa ($t \text{ s}$)	0	1	2	3	4	5

(c)



(d) Kecerunan = $-\frac{100}{5} = -20$

Pintasan- $v = 100$

$\therefore v = -20t + 100$

3 (a) Tinggi lembing apabila ia mula-mula direjam

(b) 2 m

(c) Jarak mengufuk maksimum lembing itu

(d) $y = 0$

$$-\frac{7}{900}x^2 + \frac{13}{30}x + 2 = 0$$

$$-7x^2 + 390x + 1800 = 0$$

$$7x^2 - 390x - 1800 = 0$$

$$(x - 60)(7x + 30) = 0$$

$$x = 60 \text{ atau } x = -\frac{30}{7}$$

$$x = -\frac{30}{7} \text{ tidak diterima.}$$

$$\therefore x = 60$$

Jarak mengufuk maksimum lembing itu ialah 60 m.

4 (a) Panjang jambatan itu (PQ)

(b) $h(x) = -\frac{x^2}{60} + 2x$

Apabila $h(x) = 0$,

$$-\frac{x^2}{60} + 2x = 0$$

$$-x^2 + 120x = 0$$

$$-x(x-120) = 0$$

$$x = 120$$

Jarak di antara setiap rod = $\frac{120}{10} = 12$ m

(c) Apabila $h(x) = 60$,

$$-\frac{x^2}{60} + 2x = 60$$

$$-x^2 + 120x = 3600$$

$$-x^2 + 120x - 3600 = 0$$

$$x^2 - 120x + 3600 = 0$$

$$(x-60)(x-60) = 0$$

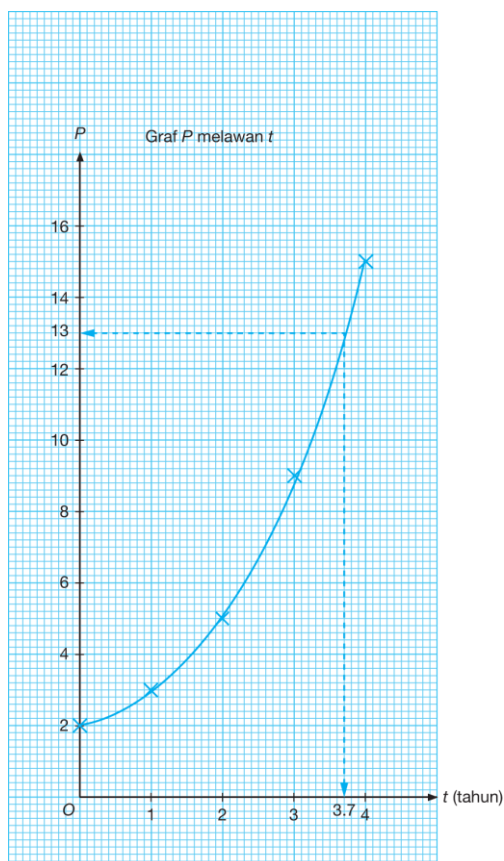
$$x = 60$$

Maka, jarak mengufuk rod konkrit itu dari P ialah 60 m.

5 (a)

t	0	1	2	3	4
P	2	3	5	9	15

(b)



(c) 13 ekor beruang panda

$$\begin{aligned}6 \text{ (a) } P(t) &= ab^t \\ P(0) &= ab^0 = 20 \\ a &= 20\end{aligned}$$

Bilangan monyet bertambah 20% setahun, iaitu $\frac{100 + 20}{100} \times 20 = 24$.

$$\begin{aligned}P(1) &= ab^1 = 24 \\ 20b &= 24 \\ b &= 1.2\end{aligned}$$

$$\begin{aligned}\text{(b) } P(t) &= ab^t \\ P(10) &= 20(1.2)^{10} = 124 \text{ ekor monyet}\end{aligned}$$

Praktis Sumatif 8

Soalan Objektif

$$1 \ s = mt + c$$

$$\begin{aligned}\text{Bagi titik (10, 11),} \\ 11 &= 10t + c \dots (1)\end{aligned}$$

$$\begin{aligned}\text{Bagi titik (15, 8),} \\ 8 &= 15t + c \dots (2)\end{aligned}$$

$$\begin{aligned}(1) - (2) : 3 &= -5t \\ t &= -\frac{3}{5}\end{aligned}$$

$$\begin{aligned}\text{Daripada (1) : } 11 &= 10\left(-\frac{3}{5}\right) + c \\ 11 &= -6 + c \\ c &= 17\end{aligned}$$

$$\text{Maka, } s = -\frac{3}{5}t + 17$$

Jawapan: D

2 Pintasan- s bagi graf jarak-masa ialah jarak di antara stadium dan rumah Sidek.

Jawapan: D

3 Pintasan- t bagi graf jarak-masa ialah tempoh masa Sidek memandu dari stadium ke rumahnya.

Jawapan: A

4 Kecerunan graf jarak-masa linear mewakili laju kereta.

Jawapan: B

Soalan Struktur

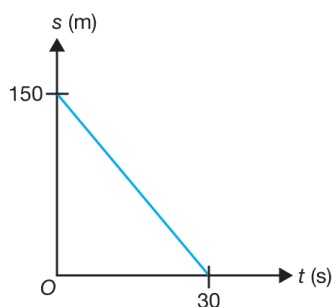
1 (a) Pintasan- s = Jarak di antara bas dan sekolah

Pintasan- t = Masa yang diambil oleh bas untuk tiba di sekolah

$$\text{Kecerunan} = s = -\frac{150}{30} \text{ m s}^{-1}$$

$$s = -5t + 150$$

(b)



2 (a) x mewakili bilangan gambar foto yang dicetak dan y mewakili bayaran, dalam RM.

(b) $y = 0.70x - 5$

3 (a) $h(x) = ax^2 + bx + c$

Apabila $x = 0$, $h(0) = a(0)^2 + b(0) + c$

Maka, $c = 0$

Apabila $x = 120$, $h(120) = 0$

$$a(120)^2 + b(120) = 0$$

$$120a + b = 0 \dots (1)$$

Di tengah jambatan,

$$h(60) = 70$$

$$a(60)^2 + b(60) = 70$$

$$3600a + 60b = 70$$

$$360a + 6b = 7 \dots (2)$$

$$720a + 6b = 0 \dots (1) \times 6$$

$$(-) \quad \underline{360a + 6b = 7 \dots (2)}$$

$$360a = -7$$

$$a = -\frac{7}{360}$$

Daripada (2) : $360\left(-\frac{7}{360}\right) + 6b = 7$

$$-7 + 6b = 7$$

$$b = \frac{14}{6}$$

$$b = \frac{7}{3}$$

Maka, $a = -\frac{7}{360}$, $b = \frac{7}{3}$, $c = 0$

(b) $h(x) = -\frac{7}{360}x^2 + \frac{7}{3}x$

Apabila $h(x) = 58\frac{4}{5}$,

$$-\frac{7}{360}x^2 + \frac{7}{3}x = \frac{294}{5}$$

$$-7x^2 + 840x - 21168 = 0$$

$$x^2 - 120x + 3024 = 0$$

$$(x - 36)(x - 84) = 0$$

$$x = 36 \text{ atau } x = 84$$

Maka, jarak mengufuk dari P ialah 36 m atau 84 m.

4 (a) Objek itu mengenai aras laut.

(b) Apabila $y = -64$,
 $24t - 4t^2 = -64$

$$4t^2 - 24t - 64 = 0$$

$$t^2 - 6t - 16 = 0$$

$$(t - 8)(t + 2) = 0$$

$$t = 8 \text{ atau } t = -2$$

$$t = -2 \text{ tidak diterima.}$$

$$\therefore t = 8$$

5 (a) $y = -\frac{3}{100}(x - 50)^2 + 75$

Apabila $x = 0$, $y = -\frac{3}{100}(0 - 50)^2 + 75$

$$y = 75 - 75$$

$$y = 0$$

(b) Apabila $y = 0$, x ialah jarak QE .

(c) $-\frac{3}{100}(x - 50)^2 + 75 = 0$

$$-3(x - 50)^2 + 7500 = 0$$

$$-3(x^2 - 100x + 2500) + 7500 = 0$$

$$-3x^2 + 300x - 7500 + 7500 = 0$$

$$-3x^2 + 300x = 0$$

$$x^2 - 100x = 0$$

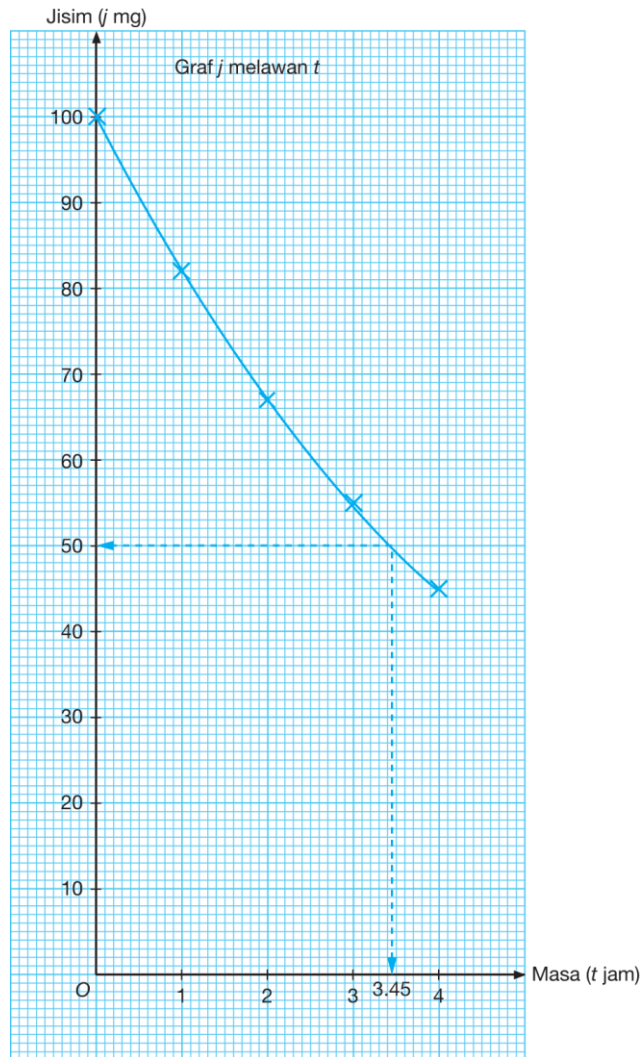
$$x(x - 100) = 0$$

$$x = 100$$

6 (a)

Masa (t jam)	0	1	2	3	4
Jisim (j mg)	100	81.87	67.03	54.88	44.93

(b)



(c) 3.45 jam

7 (a) $y = a(b)^x$

Apabila $x = 0$, $y = 5\,000$

$$5\,000 = a(b)^0$$

$$a = 5\,000$$

Apabila $x = 1$, $y = 5\,200$

$$5\,200 = a(b)^1$$

$$ab = 5\,200$$

$$5\,000b = 5\,200$$

$$b = 1.04$$

(b) $y = 5\,000 (1.04)^x$

Apabila $x = 2$,

$$y = 5\,000 (1.04)^2$$

$$y = 5\,408$$

Simpanan Puan Hani ialah RM5 408.

8 (a) $n = ae^{2t}$

Apabila $t = 0$, $n = 2$.

$$2 = a[2.718^{2(0)}]$$

$$2 = a(1)$$

$$a = 2$$

(b) $n = 2e^{2t}$

Apabila $t = 4.25$,

$$n = 2e^{2(4.25)} = 9\,821 \text{ bakteria}$$