

Penyelesaian Lengkap

Kertas Model SPM

Kertas 1

1 C

- A $5\,876\text{ kg} = 5.876 \times 10^3\text{ kg}$
 B $0.00015\text{ mm} = 1.5 \times 10^{-4}\text{ mm}$
 D $0.352\text{ ml} = 3.52 \times 10^{-1}\text{ ml}$

2 D

3 C

$$\begin{aligned} \text{Nilai matang/Matured value} &= P\left(1 + \frac{r}{n}\right)^{nt} \\ &= 15\,000\left(1 + \frac{0.04}{6}\right)^{(6)(3)} \\ &= \text{RM}16\,905.72 \end{aligned}$$

Jumlah faedah yang terkumpul/Total accumulated interest

$$\begin{aligned} &= \text{RM}16\,905.72 - \text{RM}15\,000 \\ &= \text{RM}1\,905.72 \end{aligned}$$

4 D

5 A

6 B

7 D

$$\begin{aligned} 0.5\left(\frac{x}{60}\right)(24) + \frac{x}{60}(24) + 0.5\left(\frac{18-2x}{60}\right)(48+24) &= 6 \\ \frac{x}{5} + \frac{2x}{5} + \frac{54-6x}{5} &= 6 \\ -\frac{3x}{5} + \frac{54}{5} &= 6 \\ -3x + 54 &= 30 \\ -3x &= -24 \\ x &= 8 \end{aligned}$$

8 C

$$\begin{aligned} f(x) &= (x-1)(x-5) \\ &= x^2 - 6x + 5 \end{aligned}$$

9 B

$$\begin{aligned} x &\propto \frac{y}{\sqrt[3]{\frac{1}{z}}} \\ k &= \frac{x^3 \sqrt[3]{\frac{1}{z}}}{y} \\ k &= \frac{y}{\sqrt[3]{\frac{1}{125}}} \\ k &= \frac{1}{10} \\ x &= \frac{y}{10^3 \sqrt[3]{\frac{1}{z}}} \end{aligned}$$

10 C

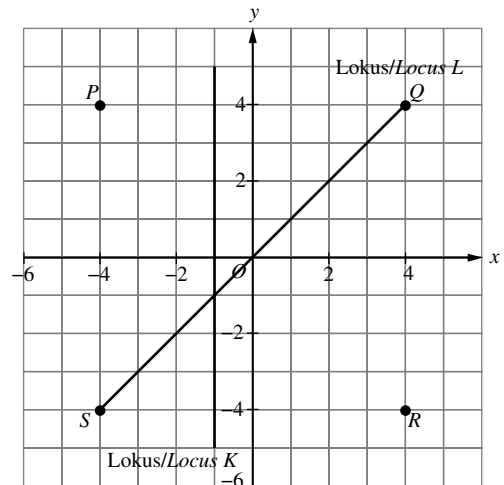
$(0, 4)$ $(3, 0)$, Pintasan- $y = 4$
 y -intercept = 4

$$y = \frac{-4x}{3} + 4$$

11 A

12 A

13 D



14 D

Jejari bulatan terbesar ialah $4r$.
 Radius of the largest circle is $4r$.
 Luas bulatan terbesar/Area of the largest circle
 $= \pi(4r)^2$
 $= 16\pi r^2$

15 C

16 A

$\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$A = \{1, 3, 5\}$

$B = \{1, 5\}$

17 D

18 A

20	30	30	30	40	40	50	60	80
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Median = 40

Kuartil pertama/First quartile = 30

Kuartil ketiga/Third quartile

$$= \frac{50 + 60}{2}$$

= 55

Julat antara kuartil/Interquartile range

$$= 55 - 30$$

= 25

19 B

Harga/Price (RM)	Kekerapan Frequency, f	x	fx
501 – 1 000	10	750.5	7 505
1 001 – 1 500	9	1 250.5	11 254.5
1 501 – 2 000	8	1 750.5	14 004
2 001 – 2 500	15	2 250.5	33 757.5
	$\Sigma f = 42$		$\Sigma fx = 66 521$

$$\begin{aligned} \text{Min/Mean} &= \frac{\Sigma fx}{\Sigma f} \\ &= \frac{66\,521}{42} \\ &= \text{RM1 583.83} \end{aligned}$$

20 B

$$\text{Kebarangkalian/Probability} = (0.3 \times 0.6) + (0.7 \times 0.4) = 0.46$$

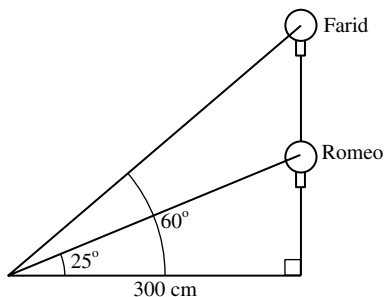
21 B

$$\begin{aligned} & [(-\sqrt{a}) \div (-\sqrt{b})] \times \sqrt{\frac{a}{b}} \\ &= \sqrt{\frac{a}{b}} \times \sqrt{\frac{a}{b}} \\ &= \frac{a}{b} \end{aligned}$$

22 C

$$\begin{aligned} & \text{Luas trapezium} \\ & \text{Area of trapezium} \\ &= 0.5 \times [(12 \times 10^3) + (6 \times 10^2)] \times (5 \times 10^2) \text{ cm}^2 \\ &= 3.15 \times 10^6 \text{ cm}^2 \end{aligned}$$

23 C



Ketinggian Farid dari tanah mengufuk
Height of Farid from the horizontal ground

$$\begin{aligned} &= 300 \tan 60^\circ \\ &= 519.62 \text{ cm} \end{aligned}$$

Ketinggian Romeo dari tanah mengufuk
Height of Romeo from the horizontal ground

$$\begin{aligned} &= 300 \tan 25^\circ \\ &= 139.89 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{Perbezaan/Difference} &= 519.62 - 139.89 \\ &= 379.73 \text{ cm} \end{aligned}$$

24 A

$$\frac{y-1}{2}(y+1) = 4(y+1)$$

$$y^2 - 1 = 8y + 8$$

$$y^2 - 8y - 9 = 0$$

$$(y+1)(y-9) = 0$$

$$y = -1 \text{ atau/or } y = 9$$

25 C

26 B

$$\begin{aligned} a^2 + b^2 + 2ab &= a^2 - b^2 + a(a+b) \\ (a+b)^2 &= (a-b)(a+b) + a(a+b) \\ a+b &= (a-b+a) \\ a+b &= 2a-b \\ a &= 2b \end{aligned}$$

27 D

$$\begin{aligned} r &\propto \sqrt{A} \\ r &= k\sqrt{A} \end{aligned}$$

$$k = \frac{r}{\sqrt{A}}$$

$$= \frac{3}{\sqrt{28.27}}$$

$$= 0.5642$$

$$r = 0.5642\sqrt{A}$$

Apabila $r = 9$ cm,

When $r = 9$ cm,

$$9 = 0.5642\sqrt{A}$$

$$\sqrt{A} = 15.95$$

$$A = 254$$

28 B

$$(p \ 1) \begin{pmatrix} 2 & 3 \\ 4 & q \end{pmatrix} = (14 \ 13)$$

$$2p + 4 = 14$$

$$2p = 10$$

$$p = 5$$

$$3p + q = 13$$

$$3(5) + q = 13$$

$$q = -2$$

$$p + q = 5 - 2$$

$$= 3$$

29 A

$$y = 68^\circ \times 2$$

$$= 136^\circ$$

Saiz sudut pada pusat bulatan adalah dua kali ganda saiz sudut pada lilitan bulatan yang dicangkum oleh suatu lengkok yang sama.

The size of angle at the centre of a circle is twice the size of angle at the circumference of the circle subtended by the same arc.

30 B

Diberi bahawa tinggi dan tapak kedua-dua segi tiga itu adalah berkadaran.

Given that the heights and the bases of the triangles are in proportion.

$$\frac{r}{9} = \frac{12}{4}$$

$$r = 27 \text{ cm}$$

Luas segi tiga kecil/Area of small triangle

$$= 0.5(4)(9)$$

$$= 18 \text{ cm}^2$$

Luas segi tiga besar/Area of big triangle

$$= 0.5(12)(27)$$

$$= 162 \text{ cm}^2$$

Nisbah/Ratio

$$= 18 : 162$$

$$= 1 : 9$$

31 D

A ialah pelan.

A is a top view (plan).

B ialah dongakan depan.

B is a front view.

C ialah dongakan sisi.

C is a side view.

32 B

Nombor perdana yang seterusnya selepas 29 ialah 31.

The next prime number after 29 is 31.

$$7 + 6 + 1 + x + 5 + x + 8 = 31$$

$$2x + 27 = 31$$

$$2x = 4$$

$$x = 2$$

Bilangan murid yang terlibat dalam kajian ini

The number of pupils involved in this survey

$$= 31 + 2x$$

$$= 31 + 2(2)$$

$$= 35$$

33 C

Dalam pusingan kedua, peratusan peserta yang mengambil lebih daripada 80 minit ialah

In the second round, the percentage of participants who took more than 80 minutes is

$$\frac{2}{31} \times 100\% = 6.45\%$$

34 A

Nombor genap/Even numbers = {66, 68, 76, 96, 88, 86, 78, 98}

$$\text{Kebarangkalian/Probability} = \frac{8}{16} \\ = 0.5$$

35 B

Katakan x ialah perbelanjaan tidak tetap May.

Let x be May's variable expenses.

$$\text{RM4 000} - \text{RM2 500} - \text{RM}x = - \text{RM}240$$

$$x = \text{RM}1 740$$

36 B

$$\begin{array}{r} 2 \overline{) 444, 432, 420} \\ 2 \overline{) 222, 216, 210} \\ \hline 111, 108, 105 \end{array}$$

Dalam satu kumpulan, terdapat 111, 108 dan 105 orang murid Tingkatan 3, 4 dan 5 masing-masing.

Jumlah murid dalam satu kumpulan ialah

$$111 + 108 + 105 = 324.$$

In a group, there are 111, 108 and 105 pupils of Forms 3, 4 and 5 respectively. The total number of pupils in a group is $111 + 108 + 105 = 324$.

$$324 \times \frac{2}{3} = 216$$

37 C

$$3x = 6$$

$$y = 6$$

Maka/Thus,

$$3x = y$$

$$x = \frac{y}{3}$$

38 D

$$5 + 10 + 30 + 40 + 15 = 100$$

39 D

$$\begin{aligned} \text{Diameter} &= 11_9 \\ &= 1(9^1) + 1(9^0) \\ &= 9 + 1 \\ &= 10 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{Tinggi/Height} &= 31_7 \\ &= 3(7^1) + 1(7^0) \\ &= 21 + 1 \\ &= 22 \text{ cm} \end{aligned}$$

Isi padu silinder/Volume of the cylinder

$$= \pi(5^2)(22)$$

$$= 550\pi \text{ cm}^3$$

Panjang sisi kubus/Length of side of cube

$$= 12_3$$

$$= 1(3^1) + 2(3^0)$$

$$= 3 + 2$$

$$= 5 \text{ cm}$$

Isi padu kubus/Volume of cube

$$= 5^3$$

$$= 125 \text{ cm}^3$$

Isi padu air yang akan mengalir keluar

The volume of water that will flow out

$$= 550\pi - 125$$

$$= 550\left(\frac{22}{7}\right) - 125$$

$$= 1 604$$

40 D

Kertas 2

Bahagian/Section A

1 Luas/Area = $y^2 + 7y + 10$

$$= (y + 5)(y + 2)$$

Perimeter = $2(y + 5) + 2(y + 2)$

$$= 2y + 10 + 2y + 4$$

$$= 4y + 14 \text{ cm}$$

2 (a) 3, 0.6, 0.12, 0.024, 0.0048

(b) Mendarab 0.2 kepada nombor sebelumnya.

Multiply 0.2 to the previous number.

3 (a) $\cos/\cos k = \frac{1}{2}$

$$k = \cos^{-1}/\cos^{-1} 0.5$$

$$= 60^\circ$$

(b) $(0, 0)(\sqrt{3}, 1)$

$$y = \frac{x}{\sqrt{3}}$$

4 $410_6 = 4(6^2) + 1(6^1)$

$$= 150 \text{ cm}$$

$$1020_5 = 1(5^3) + 2(5^1)$$

$$= 135 \text{ cm}$$

Grace adalah lebih berpotensi sebab dia mencapai ketinggian yang lebih dalam pertandingan.
Grace is more potential as she achieved a higher height in the competition.

- 5 (a) $P \propto \frac{B}{H}$
 $P = \frac{kB}{H}$
 $60 = \frac{3k}{40}$
 $k = 800$
 $P = \frac{800B}{H}$
- (b) $144 = \frac{800B}{50}$
 $B = \frac{144 \times 50}{800}$
 $B = 9$
- 6 (a) Jumlah kos yang harus ditanggung oleh Mustafa
Total cost borne by Mustafa
 $= \text{RM}1\,000 + \frac{20}{100} \times (\text{RM}5\,000 - \text{RM}1\,000)$
 $= \text{RM}1\,800$
- (b) Katakan x mewakili yuran pengajian sendiri.
Let x represents the fee for self education.
 Pendapatan bercukai = Jumlah pendapatan
 – Pengecualian cukai –
 Pelepasan cukai
Chargeable income = Total annual income – Tax exemption – Tax relief
 $\text{RM}78\,100 = \text{RM}93\,600 - \text{RM}9\,000 - x$
 $x = \text{RM}6\,500$
- 7 (a) Diberi persamaan garis lurus yang menghubungkan pasar dengan kedai runcit ialah
 $y = \frac{3}{4}x - \frac{1}{4}$
Given the equation of straight line that connects the market with the grocery store is $y = \frac{3}{4}x - \frac{1}{4}$.
 Gantikan $(-1, -1)$ dan $m = -\frac{4}{3}$ ke dalam $y = mx + c$.
Substitute $(-1, -1)$ and $m = -\frac{4}{3}$ into $y = mx + c$.
 $y = -\frac{4}{3}x + c$
 $-1 = \frac{4}{3} + c$
 $c = -\frac{7}{3}$
 Maka, persamaan garis lurus ialah $y = -\frac{4}{3}x - \frac{7}{3}$.
Hence, the equation of the straight line is $y = -\frac{4}{3}x - \frac{7}{3}$.
- (b) Koordinat bagi padang ialah $(n, 3)$.
The coordinate of the field is $(n, 3)$
 $\sqrt{[3 - (-1)]^2 + [n - (-1)]^2} = 5$
 $16 + (n + 1)^2 = 25$
 $(n + 1)^2 = 9$

$$n + 1 = 3 \quad \text{atau /or} \quad n + 1 = -3$$

$$n = 2 \qquad \qquad \qquad n = -4$$

$$\therefore n = -4$$

- 8 (a) $\frac{30}{100 + p + 70} = \frac{1}{10}$
 $300 = 170 + p$
 $p = 300 - 170$
 $= 130$
- (b) $\frac{10 + 6}{20 + 3 + 0.02q} = \frac{4}{11}$
 $176 = 92 + 0.08q$
 $q = 1\,050$
- 9 (a) Wang pendahuluan/Down payment
 $= \frac{20}{100} \times \text{RM}90\,000 = \text{RM}18\,000$
 Dia perlu menyimpan $\frac{\text{RM}18\,000}{24} = \text{RM}750$
 sebulan untuk mencapai matlamat kewangannya.
 Eric dapat mencapai matlamat kewangannya sebab dia dapat menyimpan $\text{RM}4\,500 - \text{RM}2\,000 = \text{RM}2\,500$ sebulan.
He needs to save $\frac{\text{RM}18\,000}{24} = \text{RM}750$ a month in order to achieve his financial goal. Eric is able to achieve his financial goal as he managed to save $\text{RM}4\,500 - \text{RM}2\,000 = \text{RM}2\,500$ per month.
- (b) Aliran tunai = Jumlah pendapatan – Jumlah perbelanjaan
Cash flow = Total income – Total expenses
 $\text{RM}4\,150 = \text{RM}6\,000 + \text{RM}1\,000 - \text{Jumlah perbelanjaan/Total expenses}$
 Jumlah perbelanjaan/Total expenses = $\text{RM}2\,850$
 Perbelanjaan tidak tetap/Variable expenses = $\text{RM}2\,850 - \text{RM}2\,000 = \text{RM}850$

10 (a)

Gaji harian Daily wages (RM)	Bilangan pekerja Number of workers, f	x	x^2	fx
5 – 9	3	7	49	21
10 – 14	9	12	144	108
15 – 19	18	17	289	306
20 – 24	25	22	484	550
25 – 29	m	27	729	$27m$
30 – 34	10	32	1 024	320
35 – 39	6	37	1 369	222
	Σf $= 71 + m$			Σfx $= 1\,527 + 27m$

$$\text{Min/Mean} = \frac{\Sigma fx}{\Sigma f}$$

$$\frac{\Sigma fx}{\Sigma f} = 23.1$$

$$\frac{1\,527 + 27m}{71 + m} = 23.1$$

$$1\,640.1 + 23.1m = 1\,527 + 27m$$

$$27m - 23.1m = 113.1$$

$$3.9m = 113.1$$

$$m = 29$$

(b)

Bilangan pekerja Number of workers, f	x	x^2	fx	fx^2
3	7	49	21	147
9	12	144	108	1 296
18	17	289	306	5 202
25	22	484	550	12 100
29	27	729	783	21 141
10	32	1 024	320	10 240
6	37	1 369	222	8 214
$\Sigma f = 100$			$\Sigma fx = 2 310$	$\Sigma fx^2 = 58 340$

Varians/Variance

$$= \frac{\Sigma fx^2}{\Sigma f} - \bar{x}^2$$

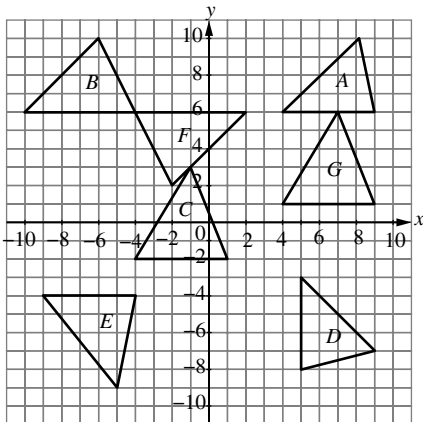
$$= \frac{58 340}{100} - 23.1^2$$

$$= \text{RM}49.79$$

Bahagian/Section B

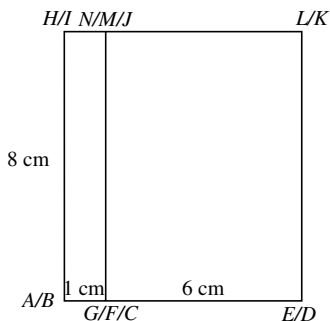
- 11 (a) A dan/and D
B dan/and F

(b)

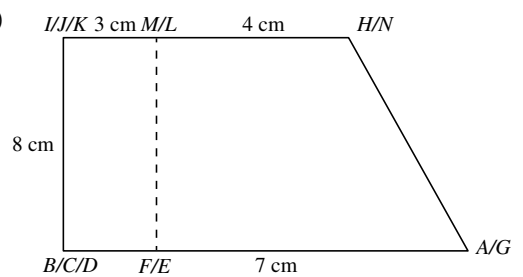


- (c) Pantulan pada garis $y = x + 10$ /Reflection in the line $y = x + 10$
Putaran 180° pada pusat $(-4, 6)$.
 180° rotation at centre $(-4, 6)$.

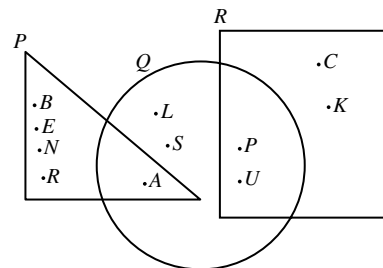
12 (a)



(b)



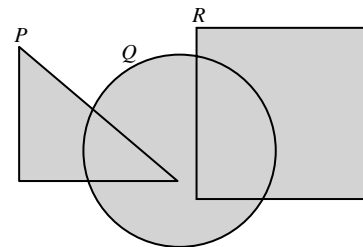
13 (a)



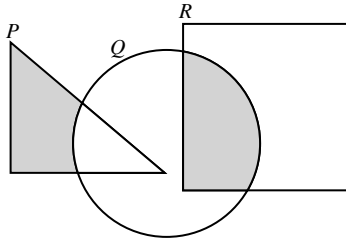
- (b) $Q' = \{B, E, N, R, C, K\}$
 $n(Q') = 6$
 $P' = \{L, S, P, U, C, K\}$
 $n(P') = 6$

Maka, $n(Q') = n(P')$ adalah benar.
Hence, $n(Q') = n(P')$ is true.

(c) (i)



(ii)



$$14 \text{ (a) } 0.5 \begin{pmatrix} 92 & 80 \\ 156 & 140 \\ 88 & 70 \end{pmatrix} \begin{pmatrix} 1.1 \\ 0.8 \end{pmatrix} = \begin{pmatrix} 82.6 \\ 141.8 \\ 76.4 \end{pmatrix}$$

Min IPU bagi ketiga-tiga negeri tersebut bagi dua hari tersebut masing-masing ialah 82.6, 141.8 dan 76.4.

The mean API for the three states for the two days is 82.6, 141.8 and 76.4 respectively.

$$14 \text{ (b) } 0.5 \begin{pmatrix} 92 & 80 \\ 156 & 140 \\ 88 & 70 \end{pmatrix} = \begin{pmatrix} 46 & 40 \\ 78 & 70 \\ 44 & 35 \end{pmatrix}$$

IPU bagi Perak dan Sarawak adalah dalam lingkungan yang sihat tetapi IPU di Selangor masih belum mencapai lingkungan yang sihat.

The API for Perak and Sarawak is in the healthy range but the API for Selangor has not reached the healthy level.

$$15 \text{ (a) } 0.1x + 0.2y \leq 3$$

$$x \geq 5y$$

$$15 \text{ (b) } 0.2y = -0.1x + 3$$

$$y = -0.5x + 15 \dots\dots ①$$

Apabila $x = 0$, $y = 15$ dan $x = 20$, $y = 5$

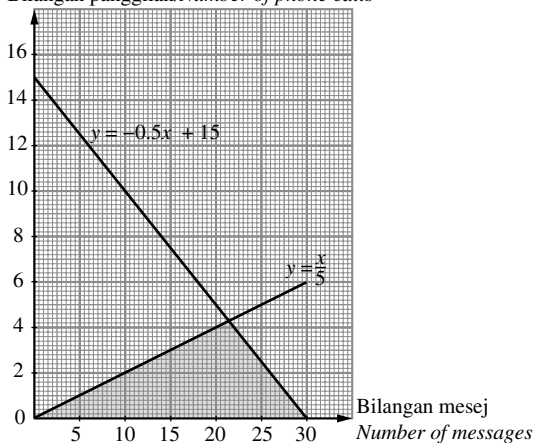
When $x = 0$, $y = 15$ and $x = 20$, $y = 5$

$$y = \frac{x}{5} \dots\dots ②$$

Apabila $x = 0$, $y = 0$ dan $x = 5$, $y = 1$

When $x = 0$, $y = 0$ and $x = 5$, $y = 1$

Bilangan panggilan/Number of phone calls



(c) (20, 4) berada dalam kawasan berlorek. Maka, 4 minit panggilan dan 20 mesej adalah dalam budget Rodi.

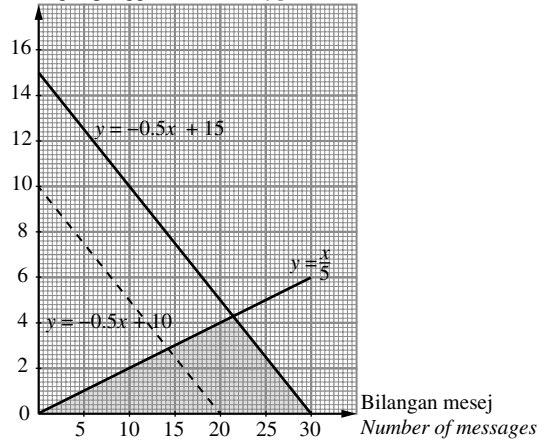
(20, 4) is within the shaded region. Hence, 4 minutes of phone calls and 20 messages is within Rodi's budget.

$$(d) \text{ (i) } 0.1x + 0.2y < 2$$

$$\text{ (ii) } 0.2y = -0.1x + 2$$

$$y = -0.5x + 10$$

Bilangan panggilan/Number of phone calls



Bahagian/Section C

16 (a) (i) Saat ke-6 hingga saat ke-28, iaitu, $28 - 6 = 22$ saat

$6^{\text{th}} - 28^{\text{th}}$ seconds, that is, $28 - 6 = 22$ seconds

(ii) Jarak yang dilalui/Distance travelled

$$= 0.5(6)(30)$$

$$= 90 \text{ m}$$

(b) Katakan a , b dan c masing-masing mewakili bilangan kucing betina dengan 3, 6 dan 8 ekor anak kucing.

Let a , b and c represents the number of female cats with 3, 6 and 8 kittens respectively.

$$a + b + c = 8 \dots\dots ①$$

$$a = c \dots\dots ②$$

Gantikan ② ke dalam ①.

Substitute ② into ①.

$$2c + b = 8 \dots\dots ③$$

$$\frac{5 + c}{21} = \frac{1}{3}$$

$$c = a = 2 \dots\dots ④$$

Gantikan ④ ke dalam ③.

Substitute ④ into ③.

$$2(2) + b = 8$$

$$b = 4$$

Maka, nisbah bilangan kucing betina dengan 3, 6 dan 8 ekor anak kucing ialah $2 : 4 : 2 = 1 : 2 : 1$.

Hence, the ratio of female cats with 3, 6 and 8 kittens is $2 : 4 : 2 = 1 : 2 : 1$.

(c) Beza antara sudut tunduk ikan palsu/Difference in the angle of depression of fake fish

$$= \left(\tan^{-1} \frac{103}{50} \right) - \left(\tan^{-1} \frac{18}{50} \right)$$

$$= 64.11^\circ - 19.8^\circ$$

$$= 44.31^\circ$$

(d) **Jenama/Brand X**

Min jisim anak kucing

Mean masses of kittens

$$= \frac{670 + 720 + 680 + 700}{4}$$

$$= 692.5 \text{ g}$$

Jenama/Brand Y

Min jisim anak kucing

Mean masses of kittens

$$= \frac{700 + 690 + 710 + 695}{4}$$

$$= 698.75 \text{ g}$$

Jenama Y adalah pilihan yang lebih bagus kerana anak kucing mempunyai min jisim yang lebih tinggi, iaitu 698.75 g selepas satu bulan berbanding dengan min jisim anak kucing yang makan makanan jenama X.

Brand Y is a better choice as the mean masses of the kittens is higher after one month, that is 698.75 g after one month compared to the mean masses of the kittens which consumed food of brand X.

- 17 (a) (i) Nisbah murid lelaki dari kelas 5 Amanah kepada jumlah bilangan perempuan
Ratio of boys from class 5 Amanah to the total number of girls

$$= 18 : 22 + 20$$

$$= 18 : 42$$

$$= 3 : 7$$

- (ii) $1 - P(\text{Tiada seorang murid lelaki menaiki kereta/No boys travel by car})$

$$= 1 - \left[\left(\frac{22}{40} \times \frac{21}{39} \right) \times \left(\frac{20}{44} \times \frac{19}{43} \right) \right]$$

$$= 0.9405$$

- (b) Katakan p dan q masing-masing mewakili bayaran bagi murid yang menaiki kereta dan yang menaiki bas.

Let p and q represents the fee for students who travel by car and by bus respectively.

$$4p + 80q = 3\,440 \dots\dots\dots(1)$$

$$p = 1.5q \dots\dots\dots(2)$$

Gantikan (2) ke dalam (1).

Substitute (2) into (1).

$$4(1.5q) + 80q = 3\,440$$

$$86q = 3\,440$$

$$q = 40$$

$$p = 1.5(40)$$

$$= 60$$

Bayaran bagi murid yang menaiki kereta dan bas masing-masing ialah RM60 dan RM40.

The fees for students who travel by car and bus are RM60 and RM40 respectively.

- (c) (i) Bagi dua jam yang terakhir perjalanan tersebut,

$$\text{laju ialah } \frac{230 - 0}{4.5 - 6.5} = -115 \text{ km per jam}$$

$$= 115 \text{ km j}^{-1}. \text{ Maka, pemandu tersebut telah}$$

melempi had laju yang ditetapkan.

For the last two hours of the journey, the speed

$$\text{is } \frac{230 - 0}{4.5 - 6.5} = -115 \text{ km per hour} = 115 \text{ km h}^{-1}.$$

Hence, the driver exceeded the speed limit.

- (ii) Laju purata/ *Average speed*

$$= \frac{230 \times 2}{6.5}$$

$$= 70.77 \text{ km j}^{-1}/\text{km h}^{-1}$$

- (iii) Kereta bergerak sebanyak 230 km selama 2.5

$$\text{jam dengan laju } \frac{230}{2.5} = 92 \text{ km j}^{-1}.$$

The car moves 230 km for 2.5 hours with a speed

$$\text{of } \frac{230}{2.5} = 92 \text{ km h}^{-1}.$$

- (d) Graf tersebut bukan suatu pokok kerana terdapat 3 bucu dan 3 tepi. Pokok harus mempunyai n bucu dan $n - 1$ tepi.

The graph is not a tree because there are 3 vertices and 3 edges. A tree should have n vertices and $n - 1$ edges.