

SKEMA MATH 2 PERC SMK CONVENT

1. $[7 \ -3 \ -4 \ 2] \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 34 \\ -20 \end{pmatrix}$ **P1**

$\begin{pmatrix} x \\ y \end{pmatrix} = \frac{1}{2} [2 \ 3 \ 4 \ 7] \begin{pmatrix} 34 \\ -20 \end{pmatrix}$ **K1**

$x = 4 \quad y = -2$ **N1 N1**

2. (a) (i) $n(V) = 4$ **P1** (ii) $E = \{(AB) (AC) (AD) (BC) (BB) (CD) (CD)\}$ **P1**

3. $RM500000 \div RM1000 \times RM4.44 = RM2\ 220$ **K1 N1**

$RM2220 \div 12 = RM185$ **K1 N1**

4. (a) $2 \times \frac{22}{7} \times 2$ Bil pusingan = 10 **K1N1**

(b) $3 \times \pi \times 3.5^2$ atau $\pi \ 10.5^2$ part = $\frac{1}{3}$ **K1N1**

5. Line QS Line Y intersection **P1P1P1**

6. (a) 10310_4 **N2 /K1N1** (b) $20 = 40_5$ **K1N1**

Bank A

$$MV = 7\ 000 \left(1 + \frac{0.06}{2}\right)^{32}$$

$$MV = 7\ 878.56$$

Bank B

$$MV = 7\ 000 \left(1 + \frac{0.03}{4}\right)^{42}$$

$$MV = 7\ 431.19$$

$\therefore$ Bank A adalah lebih berbaloi dipilih kerana pakej yang ditawarkan membolehkan Encik Hamka memperoleh faedah yang lebih tinggi.

Bank A is more worth choosing because the package offered allows Mr. Hamka to earn higher interest.

7. **N1**

Bank A **K1 N1**

Bank B **K1N1**

8. (a) (i) False **P1** (ii) True **P1**

(b) (i) $n = 3 + 3k$ **K1** (ii) 63 **N1**

9. (a) (i) 24 **P1** ((ii) 6 **P1**

(b) $\frac{1}{2} (u + 24) 4$ **K1**

$\frac{1}{2} (u + 24) 4 + 24 \times 6 = 212$ **K1**

$U = 10$ **N1**

10. (a) $BC = 12$ dilihat atau diguna **P1** $\tan x = -\frac{5}{12}$ **N1**

(b) $\cos y = \frac{5}{13}$ **N1**

$$11. \text{ Area triangle} = \frac{1}{2} \times 4y \times (y + 5) \quad K1$$

$$\frac{1}{2} \times 4y \times (y + 5) - y^2 = 39 \quad K1$$

$$y^2 + 10y - 39 - 0 \quad K1$$

$$(y - 3)(y + 13) = 0 \quad K1$$

$$y = 3 \quad N1$$

$$\text{Perimeter} = 4 \times 3 \quad K1$$

$$= 12 \quad N1$$

Jumlah markah 7

$$12. (a) \text{ Kotak atas : } \frac{3}{5} \quad N1$$

$$\text{Kotak tgh : } \frac{5}{7} \quad N1$$

$$\text{Kotak bwh : } \frac{3}{4} \quad N1$$

$$(b) (i) \frac{5}{7} \times \frac{3}{4} \times \frac{3}{5} \quad K1$$

$$= \frac{9}{28} \quad N1$$

$$(ii) \frac{5}{7} \times \frac{1}{4} \times \frac{2}{5} \quad K1 \quad \frac{2}{7} \times \frac{3}{4} \times \frac{2}{5} \quad K1$$

$$\frac{5}{7} \times \frac{1}{4} \times \frac{2}{5} + \frac{2}{7} \times \frac{3}{4} \times \frac{2}{5} + \frac{2}{7} \times \frac{1}{4} \times \frac{3}{5} \quad K1$$

$$= \frac{1}{5} \quad N1$$

13. (a) Graf

$$(b) (i) 32 \quad N1 \quad (ii) 37.75 \quad N1 \quad (iii) 10 \quad N1$$

(c) Box plot $N2$

14. (a) RM 1027.50 N1

Pendapatan dan Perbelanjaan <i>Income and Expenses</i>	Pelan Kewangan <i>Financial Plan</i> (RM)	Aliran Tunai Sebenar <i>Actual Cash Flow</i> (RM)
Pendapatan bersih Encik Kumaran <i>Net income Mr. Kumaran</i>	6 850	6 850
Jumlah perndapatan bulanan <i>Total monthly income</i>	6 850	6 850
Tolak simpanan dana kecemasan <i>Minus savings for emergency fund</i>	1 027.50	1 027.50
Baki pendapatan <i>Income balance</i>		5 822.50
Tolak perbelanjaan tetap bulanan <i>Minus monthly fixed expenses</i>		
Ansuran pinjaman perumahan <i>Housing loan instalment</i>	1 350	1 350
Ansuran pinjaman kereta <i>Car loan instalment</i>	600	600
Jumlah perbelanjaan tetap bulanan <i>Total monthly fixed expenses</i>		1 950
Tolak perbelanjaan tidak tetap bulanan <i>Minus monthly variable expenses</i>		
Barang runcit dan bil utiliti <i>Groceries and utility bills</i>	450	450
Petrol	300	300
Anak-anak <i>Children</i>	200	200
Makanan <i>Food</i>	1 000	1 000
Ibu bapa <i>Parents</i>	600	600
Jumlah perbelanjaan tidak tetap bulanan <i>Total monthly variable expenses</i>		2 550
Pendapatan lebihan <i>Surplus of income</i>		1 322.50

K1

N1

K1N1

N1

Simpanan dalam 6 bulan/*Savings in 6 months* = RM1 322.50 × 6
= RM7 935

N1

RM7 935 > RM4 500

Jadi, matlamat jangka pendek boleh dicapai/*Hence, short term goal can be achieved.*

Simpanan dalam 5 tahun/*Savings in 5 years* = RM1 322.50 × 12 × 5
= RM79 350

K1

Simpanan bersih/*Net savings* = RM79 350 – RM4 500
= RM74 850

N1

10% duit pendahuluan/*10% down payment* = RM49 500

RM74 850 > RM49 500

Jadi, matlamat jangka panjang boleh dicapai.

Hence, long term goal can be achieved.

15. (a) (i) (3, 0) (-1, 2) N1N1 (ii) (5, 4) (3, 2) N1N1

(b) (i) S - Pantulan pd x = -1 K1N1

(ii) R - Pembesaran factor skala 2 pusat (1, 3) K1N1N1

16. (a) $4x^2 - x - 3 = 0$ K1

$(4x + 3)(x - 1) = 0$ K1

$x = 1 \quad x = -\frac{3}{4}$ N1N1

(b) (i) Min = 35 K1

Varian = 13.67 N1

Sisihan piawai = 3.70 N1

(ii) $Q_1 = 3 \quad Q_2 = 5 \quad Q_3 = 6$ N1N1N1

(c) (i) Cukai dasar/Base tax = RM150

Cukai atas baki/Tax on the next balance = $(RM35\,000 - RM20\,000) \times 3\%$
= RM450

Cukai pendapatan/Income tax

= RM150 (cukai dasar/base tax) + RM450 (cukai atas baki/tax on the next balance) -
RM150 (zakat) - RM400 (rebat cukai/tax rebate)
= RM50

(ii) Pendapatan bercukai < RM35 000, Puan Rihai layak mendapat rebat cukai RM400.
Chargeable income < RM35 000, Mrs. Rihai eligible to receive tax rebate RM400.

RM400 (rebat/rebate) + RM150 (zakat) = RM550

Jumlah rebat yang layak ialah RM550.
Tax rebate obtained is RM550.

(iii) ~~Ya, lebihan cukai yang telah dibayar ialah $(RM821 - RM50) = RM771$.~~
~~Yes, an excess tax that has been paid is $(RM821 - RM50) = RM771$.~~

17 (a) $2x - y = 8$ dan $6x - 8y = 34$ P1

$5x = 15$ K1

$x = 3 \quad y = -2$ N1N1

DC = 9 N1

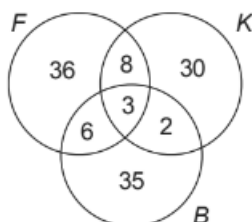
Jumlah markah = 5

(b) Pusat pembesaran (5, 2) factor skala = $\frac{1}{2}$ N1N1

Pusat (7, 4) factor skala = $-\frac{3}{2}$ N1N1

Jumlah markah 4

(i)



1

1

1

(ii) $36 + 30 + 35 + 19 = 120$

1

iii) $8 + 6 + 2 = 16$

1

K2

K1N1

K1N1

