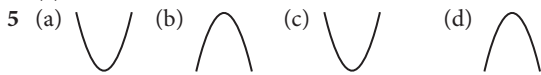# Jawapan

Praktis 1

Praktis Formatif

1.1 Fungsi dan Persamaan Kuadratik
Quadratic Functions and Equations

1

	Ungkapan *Expression*	Kuasa pemboleh ubah tertinggi = 2 *Highest power of the variable = 2* ($\checkmark$/$\times$)	Bilangan pemboleh ubah = 1 *Number of variable = 1* ($\checkmark$/$\times$)	Ungkapan kuadratik dalam satu pemboleh ubah (ya/tidak) *Quadratic expression in one variable (yes/no)*	Justifikasi (jika tidak) *Justification (If no)*
(a)	$-a^2 + 5$	$\checkmark$	$\checkmark$	Ya *Yes*	
(b)	$x^2 - 3y + 2$	$\checkmark$	$\times$	Tidak *No*	Terdapat 2 pemboleh ubah. *There are 2 variables.*
(c)	$-\dfrac{1}{3}r^2$	$\checkmark$	$\checkmark$	Ya *Yes*	
(d)	$b^3 - 5b$	$\times$	$\checkmark$	Ya *Yes*	Kuasa tertinggi ialah 3 bukan 2. *The highest power is 3 not 2.*
(e)	$\dfrac{1}{c^2} + 3c - 4$	$\times$	$\checkmark$	Tidak *No*	Kuasa tertinggi ialah 1 bukan 2. *The highest power is 1 not 2.*
(f)	$d^{\frac{1}{2}} + 4d - 5$	$\times$	$\checkmark$	Tidak *No*	Kuasa tertinggi ialah 1 bukan 2 *The highest power is 1 not 2*
(g)	$p(p + 3)$	$\checkmark$	$\checkmark$	Ya Yes	
(h)	$-e^2 + \dfrac{1}{3}e - 5$	$\checkmark$	$\checkmark$	Ya *Yes*	
(i)	$-f^2 + 2f^{-2}$	$\checkmark$	$\checkmark$	Tidak *No*	Terdapat kuasa yang bukan nombor bulat. *There is power which is not a whole number.*

e
2 (a) Ya. Sebab terdapat satu pemboleh ubah, x sahaja dan kuasa tertinggi bagi x ialah 2.
    Yes. Because there is only one variable, x and the highest power of x is 2.
  (b) Bukan. Sebab kuasa tertinggi bagi n ialah 3.
    No. Because the highest power of n is 3.
  (c) Bukan. Sebab kuasa tertinggi bagi t ialah -2 bukan 2.
    No. Because the highest power of t is -2 not 2.

3

	Ungkapan kuadratik *Quadratic Expression*	a	b	c
(a)	$3h^2 - 4h + 2$	3	–4	2
(b)	$k^2 - 5k$	1	–5	0
(c)	$-2t^2 - 3$	–2	0	–3
(d)	$-\dfrac{1}{4}q^2 + 7q$	$-\dfrac{1}{4}$	7	0
(e)	$1 - 2n - 4n^2$	–4	–2	1

4 (a) $4x^2 - 12x + 9$
   (b) $2x^2 - x - 3$
   (c) $6t^2 - 9t - 6$

5 (a) (b) (c) (d)

6 (a) Persamaan paksi simetri ialah $x = \dfrac{1 + 4}{2}$
                             $x = 2.5$.

    Equation of axis of symmetry is $x = \dfrac{1 + 4}{2}$
                                  $x = 2.5$.

   (b) Apabila/*When* $x = 2.5$,
     $y = 2.5^2 - 5(2.5) + 4$
       $= -2.25$
    Koordinat titik minimum ialah $(2.5, -2.25)$.
    The coordinates of the minimum point is $(2.5, -2.25)$.

7 (a) 2
   (b) $(0, 5)$ dan/*and* $(4, 5)$
   (c) Dua objek mempunyai imej yang sama, oleh itu hubungan banyak kepada satu.
    Two objects have the same image, therefore many-to-one relation.
   (d) $x = 2$
   (e) $(2, 1)$

8 (a) (i) Persamaan paksi simetri ialah $x = \dfrac{-2 + 3}{2}$
                                   $x = 0.5$

      Equation of axis of symmetry is $x = \dfrac{-2 + 3}{2}$
                                   $x = 0.5$.

    (ii) Koordinat titik maksimum ialah $(0.5, 6.25)$.
      The coordinates of the maximum point is $(0.5, 6.25)$.
   (b) (i) Persamaan paksi simetri ialah $x = \dfrac{1 + 3}{2}$
                                     $x = 2$

      Equation of axis of symmetry is $x = \dfrac{1 + 3}{2}$
                                   $x = 2$
    (ii) koordinat titik maksimum ialah $(2, -1)$.
      The coordinates of the maximum point is $(2, -1)$.

9 Oleh sebab graf $f(x) = px^2$ adalah paling lebar dan graf $f(x) = rx^2$ adalah paling sempit, maka nilai $p < q < r$.
As the graph of $f(x) = px^2$ is the widest and the graph of $f(x) = rx^2$ is the narrowest, the values of p, q, r are such that $p < q < r$.

10 (a) $2 = (1)^2 - 4(1) + c$
       $c = 5$
   (b) $8 = (-2)^2 - 4(-2) + c$
       $c = -4$

11 Graf 1, 2 dan 3 menunjukkan graf fungsi kuadratik dengan $a > 0$ dan nilai a bagi graf 3 > nilai a bagi graf 2 > nilai a bagi graf 1. Apabila nilai a semakin besar, graf itu mempunyai bentuk parabola semakin sempit. Nilai b dan c masing-masing sama dengan sifar sebab paksi simetri dan pintasan-y untuk ketiga-tiga graf itu ialah paksi-y dan 0.
Graphs 1, 2 and 3 show quadratic function graphs with $a > 0$ and value of a for graph 3 > value of a for graph 2 > value of a for graph 1. The greater the value of a, the graph has the narrower parabola shape. Values of b and c are zero respectively because the axes of symmetry and y-intercepts of all the three graphs are y-axis and 0.

12 (a) $p = 1$
   (b) $9 = q + 4(2) - (1)(2)^2$
       $q = 5$
   (c) Jika graf itu dipantulkan pada paksi-x, graf berbentuk minimum akan diperoleh.
    When the graph is reflected in the x-axis, a minimum graph will be obtained.
    $f(x) = -(-x^2 + 4x + 5)$
    $f(x) = x^2 - 4x - 5$
   (d) Nilai a dan c akan kekal tidak berubah dan nilai b akan bertukar tanda daripada positif kepada negatif dan sebaliknya.
    The values of a and c remain unchanged and the value of b will change sign from positive to negative and vice versa.

13 (a) $f(x) = \dfrac{1}{2}(2x + 5)(4x - 9)$

   (b) $f(x) = \dfrac{1}{2}(2x + 5)(4x - 9) = 16.5$
      $(2x + 5)(4x - 9) = 33$
      $8x^2 + 2x - 45 = 33$
      $8x^2 + 2x - 78 = 0$
      $4x^2 + x - 39 = 0$

14 (a) $f(x) = (x + 2)(x - 6)$
   (b) $f(x) = (x + 2)(x - 6) = 2x + 4$
      $x^2 - 4x - 12 = 2x + 4$
      $x^2 - 6x - 16 = 0$

15 (a) Umur Azmi sekarang/*Azmi's age now* $= x$
    Umur Amran sekarang/*Amran's age now* $= x + 3$
    5 tahun yang lepas/5 *years ago*:
    Umur Azmi /*Azmi's age* $= x - 5$
    Umur Amran/*Amran's age* $= x - 2$
    $f(x) = (x - 5)(x - 2)$
    $f(x) = x^2 - 7x + 10$
   (b) $f(x) = x^2 - 7x + 10 = 40$
      $x^2 - 7x - 30 = 0$

16 $x^2 + (x - 7)^2 = (x + 1)^2$
$x^2 + x^2 - 14x + 49 = x^2 + 2x + 1$
$x^2 - 16x + 48 = 0$

17 (a) $V(w) = 5w(w + 3)$ atau/*or* $5w^2 + 15w$
(b) $5w^2 + 15w = 90$
$w^2 + 3w - 18 = 0$

18 (a) $h(x) = x(x - 5) + (3x + 4)(x - 7)$
$= x^2 - 5x + 3x^2 - 21x + 4x - 28$
$= 4x^2 - 22x - 28$
(b) $4x^2 - 22x - 28 = 52$
$4x^2 - 22x - 80 = 0$
$2x^2 - 11x - 40 = 0$

19 (a) $(-4)^2 + 3(-4) - 4 = 16 - 12 - 4$
$= 0 = $ (Sebelah kanan/*Right hand side*)
Maka, $x = -4$ memuaskan persamaan kuadratik itu. $x = -4$ ialah puncanya.
Therefore, $x = -4$ satisfies the quadratic equation. $x = -4$ is its root.
(b) $(-1)^2 + 3(-1) - 4 = 1 - 3 - 4$
$= -6 \neq $ (Sebelah kanan/*Right hand side*)
Maka, $x = -1$ tidak memuaskan persamaan kuadratik itu. $x = -1$ bukan puncanya.
Therefore, $x = -1$ does not satisfy the quadratic equation. $x = -1$ is not its root.
(c) $(1)^2 + 3(1) - 4 = 1 + 3 - 4$
$= 0 = $ (Sebelah kanan/*Right hand side*)
Maka, $x = 1$ memuaskan persamaan kuadratik itu. $x = 1$ ialah puncanya.
Therefore, $x = 1$ satisfies the quadratic equation. $x = 1$ is its root.

20 (a) Sebelah kiri/*Left hand side* $= (-1)^2 - 2(-1)$
$= 3$
$= $ Sebelah kanan/*Right hand side*
Maka, $x = -1$ memuaskan persamaan kuadratik itu. $x = -1$ ialah puncanya.
Therefore, $x = -1$ satisfies the quadratic equation. $x = -1$ is its root.
(b) Sebelah kiri/*Left hand side* $= (1)^2 - 2(1)$
$= -1$
$\neq $ Sebelah kanan/*Right hand side*
Maka, $x = 1$ tidak memuaskan persamaan kuadratik itu. $x = 1$ bukan puncanya.
Therefore, $x = 1$ does not satisfy the quadratic equation. $x = 1$ is not its root.
(c) Sebelah kiri/*Left hand side* $= (3)^2 - 2(3)$
$= 3$
$= $ Sebelah kanan/*Right hand side*
Maka, $x = 3$ memuaskan persamaan kuadratik itu. $x = 3$ ialah puncanya.
Therefore, $x = 3$ satisfies the quadratic equation. $x = 3$ is its root.

21 Punca-punca bagi persamaan kuadratik ialah pintasan-x, iaitu apabila $f(x) = 0$, maka $x = -2$ atau $x = 3$.
Roots of quadratic equation are the x-intercepts of quadratic function when $f(x) = 0$, therefore, $x = -2$ or $x = 3$.

22 (a) $x = -2, x = 2$
(b) $x = 4, x = 5$
(c) $x = -1, x = 3$

23 (a) Sebab 2 dan 4 memuaskan $f(x) = 0$
Because 2 and 4 satisfy $f(x) = 0$
(b) $(x - 2)$ dan/*and* $(x - 4)$
(c) $f(x) = (x - 2)(x - 4)$
$f(x) = x^2 - 6x + 8$

24 (a) $x^2 - 3x = 0$
$x(x - 3) = 0$
$x = 0$ atau/*or* $(x - 3) = 0$
$x = 0$ atau/*or* $x = 3$
(b) $x^2 - 2x - 15 = 0$
$(x + 3)(x - 5) = 0$
$(x + 3) = 0$ atau/*or* $(x - 5) = 0$
$x = -3$ atau/*or* $x = 5$
(c) $3x^2 + 23x - 8 = 0$
$(3x - 1)(x + 8) = 0$
$(3x - 1) = 0$ atau/*or* $(x + 8) = 0$
$x = \dfrac{1}{3}$ atau/*or* $x = -8$
(d) $4n^2 - 49 = 0$
$(2n + 7)(2n - 7) = 0$
$n = -\dfrac{7}{2}$ atau/*or* $n = \dfrac{7}{2}$
(e) $3n^2 = 10n - 8$
$3n^2 - 10n + 8 = 0$ ◄ | Tulis dalam bentuk am dahulu. *Write in general form first.*
$(3n - 4)(n - 2) = 0$
$n = \dfrac{4}{3}$ atau/*or* $n = 2$
(f) $27n^2 = 24 - 18n$
$27n^2 + 18n - 24 = 0$
$9n^2 + 6n - 8 = 0$ ◄ | Bahagi dengan faktor sepunya. *Divide with common factor.*
$(3n + 4)(3n - 2) = 0$
$n = -\dfrac{4}{3}$ atau/*or* $n = \dfrac{2}{3}$

25 (a) $x^2 - \dfrac{5}{2}x = \dfrac{3}{2}$
$2x^2 - 5x - 3 = 0$
$(2x + 1)(x - 3) = 0$
$x = -\dfrac{1}{2}$ atau/*or* $x = 3$
(b) $\dfrac{1}{16}a^2 - 25 = 0$
$\left(\dfrac{1}{4}a - 5\right)\left(\dfrac{1}{4}a + 5\right) = 0$
$a = 20$ atau/*or* $a = -20$
(c) $6h^2 - 19h = -15$
$6h^2 - 19h + 15 = 0$
$(2h - 3)(3h - 5) = 0$
$h = \dfrac{3}{2}$ atau/*or* $h = \dfrac{5}{3}$

(d) $8q^2 + 18q - 5 = 0$
$(4q - 1)(2q + 5) = 0$
$q = \dfrac{1}{4}$ atau/*or* $q = -\dfrac{5}{2}$

(e) $m + 5 = \dfrac{6}{m}$
$m^2 + 5m - 6 = 0$
$(m - 1)(m + 6) = 0$
$m = 1$ atau/*or* $m = -6$

(f) $r + 2 = \dfrac{28}{r - 1}$
$(r + 2)(r - 1) = 28$
$r^2 + r - 30 = 0$
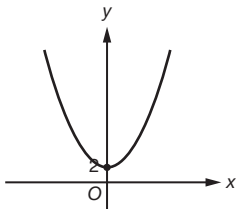$(r + 6)(r - 5) = 0$
$r = -6$ atau/*or* $r = 5$

(g) $k - 1 = \dfrac{(k + 20)}{6k}$

$6k(k - 1) = k + 20$
$6k^2 - 7k - 20 = 0$
$(2k - 5)(3k + 4) = 0$
$k = \dfrac{5}{2}$ atau/*or* $k = -\dfrac{4}{3}$

(h) $n(n - 5) = 6$
$n^2 - 5n - 6 = 0$
$(n + 1)(n - 6) = 0$
$n = -1$ atau/*or* $n = 6$

(i) $\dfrac{(h^2 - 1)}{5} - \dfrac{h}{6} = 0$
$6(h^2 - 1) - 5h = 0$
$6h^2 - 5h - 6 = 0$
$(3h + 2)(2h - 3) = 0$
$h = -\dfrac{2}{3}$ atau/*or* $h = \dfrac{3}{2}$

26 (a) $f(x) = x^2 + 2$
Nilai/*value of* $a = 1$, bentuk graf /*shape* $\cup$,
Nilai/*value of* $b = 0$, paksi simetri ialah paksi-y/*axis of symmetry is y-axis.*
Nilai/*value of* $c = 2$, pintasan-y/*y-intercept* = 2
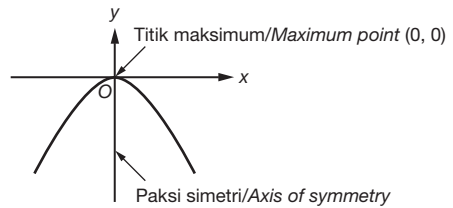Maka, titik minimum ialah (0, 2).
Therefore, the minimum point is (0, 2).

(b) $f(x) = x^2 - 4$
Nilai/*value of* $a = 1$, bentuk graf /*shape* $\cup$,
Nilai/*value of* $b = 0$, paksi simetri ialah paksi-y/*axis of symmetry is y-axis.*
Nilai/*value of* $c = -4$, pintasan-y/*y-intercept* = −4
Maka, titik minimum ialah (0, −4).
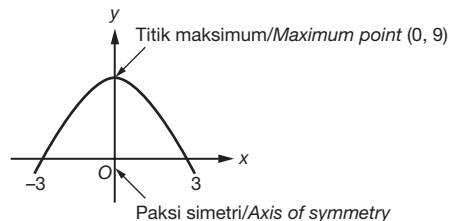*Therefore, the minimum point is* (0, −4).

Apabila/*when* $f(x) = 0$
$x^2 - 4 = 0$
$(x + 2)(x - 2) = 0$
$x = -2$ atau/*or* $x = 2$

(c) $f(x) = -x^2$
Nilai/*value of* $a = -1$, bentuk graf/*shape* $\cap$,
Nilai/*value of* $b = 0$, paksi simetri ialah paksi-y/*axis of symmetry is y-axis.*
Nilai/*value of* $c = 0$, pintasan-y/*y-intercept* = 0
Maka, titik maksimum ialah (0, 0).
Therefore, the maximum point is (0, 0).

(d) $f(x) = -x^2 + 9$
Nilai/*value of* $a = -1$, bentuk graf/*shape* $\cap$,
Nilai/*value of* $b = 0$, paksi simetri ialah paksi-y/*axis of symmetry is y-axis.*
Nilai/*value of* $c = 9$, pintasan-y/*y-intercept* = 9
Maka, titik maksimum ialah (0, 9).
Therefore, the maximum point is (0, 9).
Apabila/*when* $f(x) = 0$
$9 - x^2 = 0$
$(3 + x)(3 - x) = 0$
$x = -3$ atau/*or* $x = 3$

(e) $f(x) = x^2 + 5x - 6$
Nilai/*value of* $a = 1$, bentuk graf /*shape* $\cup$,
Nilai/*value of* $b = 5$, paksi simetri ialah/*axis of symmetry is* $x = -\dfrac{b}{2a} = -\dfrac{5}{2(1)} = -2.5$
Nilai/*value of* $c = -6$, pintasan-y/*y-intercept* = −6
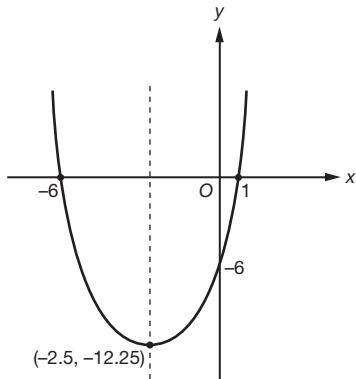
Apabila/*When* $f(x) = 0$
$$x^2 + 5x - 6 = 0$$
$$(x + 6)(x - 1) = 0$$
$x = -6$ atau/*or* $x = 1$
Apabila/*When* $x = -2.5, y = (-2.5)^2 + 5(-2.5) - 6$
$= -12.25$
Maka, titik minimum ialah $(-2.5, -12.25)$.
Therefore, the minimum point is $(-2.5, -12.25)$.

(f) $f(x) = x^2 - x - 2$
Nilai/*value of* $a = 1$, bentuk graf /*shape* $\cup$,
Nilai/*value of* $b = -1$, paksi simetri ialah/*axis of symmetry is* $x = -\dfrac{b}{2a} = -\dfrac{-1}{2(1)} = 0.5$
Nilai/*value of* $c = -2$, pintasan-y/y-*intercept* $= -2$
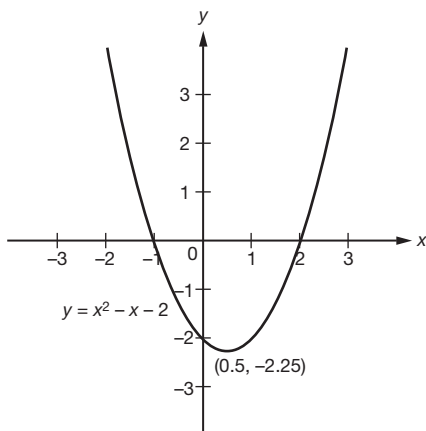Apabila/*when* $f(x) = 0$
$$x^2 - x - 2 = 0$$
$$(x + 1)(x - 2) = 0$$
$x = -1$ atau/*or* $x = 2$
Apabila/*When* $x = 0.5, y = (0.5)^2 - (0.5) - 2 = -2.25$
Maka, titik minimum ialah $(0.5, -2.25)$.
Therefore, the minimum point is $(0.5, -2.25)$.

(g) $f(x) = -x^2 - 2x + 15$
Nilai/*value of* $a = -1$, bentuk graf/*shape* $\cap$,
Nilai/*value of* $b = -2$, paksi simetri ialah/*axis of symmetry is* $x = -\dfrac{b}{2a} = -\dfrac{-2}{2(-1)} = -1$
Nilai/*value of* $c = 15$, pintasan-y/y-*intercept* $= 15$
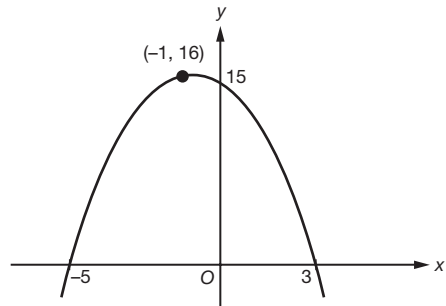
Apabila/*When* $f(x) = 0$
$$x^2 + 2x - 15 = 0$$
$$(x + 5)(x - 3) = 0$$
$x = -5$ atau/*or* $x = 3$
Apabila/*When* $x = -1, y = -(-1)^2 - 2(-1) + 15 = 16$
Maka, titik maksimum ialah $(-1, 16)$.
Therefore, the maximum point is $(-1, 16)$.

(h) $f(x) = -2x^2 - 4x + 6$
Nilai/*value of* $a = -2$, bentuk graf/*shape* $\cap$,
Nilai/*value of* $b = -4$, paksi simetri ialah/*axis of symmetry is* $x = -\dfrac{b}{2a} = -\dfrac{-4}{2(-2)} = -1$
Nilai/*value of* $c = 6$, pintasan-y/y-*intercept* $= 6$
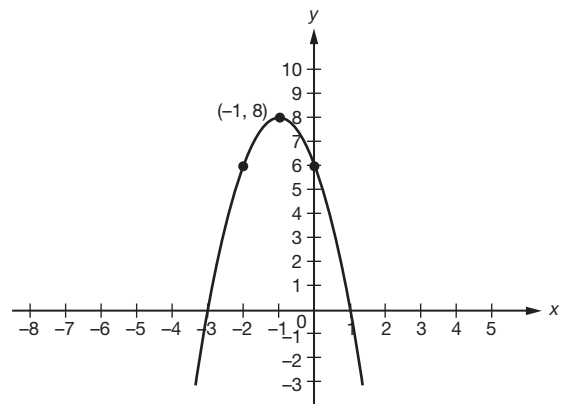Apabila/*When* $f(x) = 0$
$$-2x^2 - 4x + 6 = 0$$
$$x^2 + 2x - 3 = 0$$
$$(x + 3)(x - 1) = 0$$
$x = -3$ atau/*or* $x = 1$
Apabila/*When* $x = -1, y = -2(-1)^2 - 4(-1) + 6 = 8$
Maka, titik maksimum ialah $(-1, 8)$.
Therefore, the maximum point is $(-1, 8)$.

27 (a) $\dfrac{1}{2}x(x - 3) = 54$
$$x^2 - 3x - 108 = 0$$
(b) $(x - 12)(x + 9) = 0$
$x = 12$
(c) Tinggi/*Height* $= 12 - 3 = 9$ cm

28 (a) $x(110 - x) = 3\,000$
$$x^2 - 110x + 3\,000 = 0$$
(b) $(x - 50)(x - 60) = 0$
$x = 50$ atau/*or* $x = 60$
(c) Panjang/*Length* $= 60$ cm, Lebar/*Width* $= 50$ cm

29 (a) $x(x + 8) = 209$
$x^2 + 8x - 209 = 0$
(b) $(x - 11)(x + 19) = 0$
$x = 11$
(c) Perimeter $= [11 + (8 + 11)] \times 2 = 60$ cm

30 (a) $\frac{1}{2}[2t + 1 + 4t - 2](3t) = 138$
$(6t - 1)3t = 276$
$18t^2 - 3t - 276 = 0$
$6t^2 - t - 92 = 0$
(b) $(6t + 23)(t - 4) = 0$
$t = 4$
(c) Panjang tepi sendeng/*the length of slanting edge*
$= \sqrt{(5^2 + 12^2)} = 13$ cm
Perimeter $= 2(4) + 1 + 3(4) + 4(4) - 2 + 13$
$= 48$ cm

31 (a) $\frac{120}{(x - 2)} - \frac{120}{x} = 5$
$120x - 120x + 240 = 5x^2 - 10x$
$5x^2 - 10x - 240 = 0$
$x^2 - 2x - 48 = 0$
(b) $(x + 6)(x - 8) = 0$
$x = 8$

(c) Apabila/*When* $x = 8$,
bayaran setiap orang/*payment of each person*
$= \frac{\text{RM120}}{8} = $ RM15
jimat/*save* RM3, setiap orang bayar/*each of them*
pay RM12, maka/*therefore*
$\frac{\text{RM120}}{\text{RM12}} = 10$
$n = 10 - 8$
$= 2$ orang lagi/*more persons*

32 (a) $\frac{120}{v} - \frac{120}{v + 20} = \frac{1}{2}$
$240(v + 20) - 240v = v(v + 20)$
$v^2 + 20v - 4\,800 = 0$
(b) $(v - 60)(v + 80) = 0$
$v = 60$

Praktis Sumatif

Kertas 1

1 C	**2** A	**3** D	**4** A	**5** A
6 B	**7** C	**8** B	**9** B	

Kertas 2
Bahagian/*Section* A
1 (a) $v = 3 + 2t - t^2$
Apabila/ *When* $v = 0$
$3 + 2t - t^2 = 0$
$t^2 - 2t - 3 = 0$
$(t + 1)(t - 3) = 0$
$t = 3$ s
(b) Apabila/*When* $v = 3$
$3 + 2t - t^2 = 3$

$2t - t^2 = 0$
$t(2 - t) = 0$
$t = 0$ s or $t = 2$ s
(c) Paksi simetri/*Axis of symmetry* is $t = -\frac{b}{2a}$
$= -\frac{2}{2(-1)}$
$= 1\ s$

2 $\qquad 36x(x - 2) = 1\,728$
$36x^2 - 72x - 1728 = 0$
$x^2 - 2x - 48 = 0$
$(x - 8)(x + 6) = 0$
$x = 8$

3 (a) $x = \frac{-2 + 8}{2}$
$x = 3$
(b) $f(x) = (x + 2)(x - 8)$
$= x^2 - 6x - 16$
$= (x - 3)^2 - 9 - 16$
$= (x - 3)^2 - 25$
$p = 3$, $q = 25$
(c) $f(x) = (x - 3)^2 - 25$
Koordinat titik minimum ialah/*Coordinates of the minimum point is* $(3, -25)$.

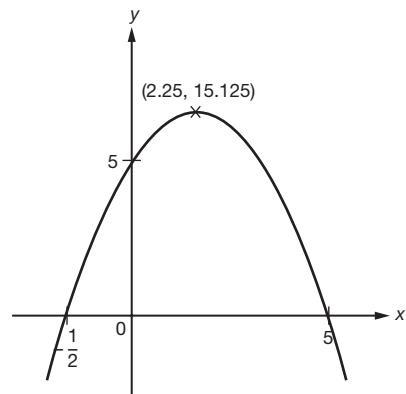**Bahagian B/*Section* B**
4 (a) $f(x) = -2x^2 + 9x + 5$
$= -(2x^2 - 9x - 5)$
$= -(2x + 1)(x - 5)$
$-(2x + 1)(x - 5) = 0$
$x = -\frac{1}{2}$ atau/*or* $x = 5$

(b) 5
(c) Persamaan paksi simetri ialah $x = \dfrac{-\frac{1}{2} + 5}{2}$
$x = 2.25$

Equation of axis of symmetry is $x = \dfrac{-\frac{1}{2} + 5}{2}$
$x = 2.25$.
Apabila/*When* $x = 2.25$,
$y = -2(2.25^2) + 9(2.25) + 5$
$= 15.125$
Titik maksimum/*Maximum point* $(2.25, 15.125)$

5 (a) $(x + 3)(x + 4) = (2x + 2)(x + 1)$
$x^2 + 7x + 12 = 2x^2 + 4x + 2$

$$x^2 - 3x - 10 = 0$$

(b) $(x + 2)(x - 5) = 0$
$$x = 5$$

(c) (i) Panjang segi empat tepat *A*/*Length of rectangle A*
$$= x + 4$$
$$= 5 + 4$$
$$= 9 \text{ cm}$$
Lebar segi empat tepat *A*/*Width of rectangle A*
$$= x + 3$$
$$= 5 + 3$$
$$= 8 \text{ cm}$$

(ii) Panjang segi empat tepat *B*/*Length of rectangle B*
$$= 2x + 2$$
$$= 10 + 2$$
$$= 12 \text{ cm}$$
Lebar segi empat tepat *B*/*Width of rectangle B*
$$= x + 1$$
$$= 5 + 1$$
$$= 6 \text{ cm}$$

(iii) Perimeter segi empat tepat *A*/*Perimeter of rectangle A*
$$= 9 + 9 + 8 + 8$$
$$= 34 \text{ cm}$$
Perimeter segi empat tepat *B*/*Perimeter of rectangle B*
$$= 12 + 12 + 6 + 6$$
$$= 36 \text{ cm}$$
Beza perimeter/*Difference between perimeter*
$$= 36 \text{ cm} - 34 \text{ cm}$$
$$= 2 \text{ cm}$$

6 (a) (i) $a > 0$

(ii) $b < 0$

(iii) $c = 5$

(b) (i) 2

(ii) $(1, 2), (3, 2)$

(iii) Hubungan banyak kepada satu
Many to one relation