

# Jawapan

## Praktis 1

### Praktis Formatif

- 1 B  
 2 (a) (i) ✓ (b) (ii) ✓  
 3 (a) Menambah 6 kepada nombor sebelumnya.  
*Add 6 to its previous number.*  
 (b) Mendarab 2 kepada nombor sebelumnya.  
*Multiply its previous number by 2.*  
 (c) Membahagi nombor sebelumnya dengan 2.  
*Divide its previous number by 2.*  
 4 (a) Menambah 9 kepada nombor sebelumnya.  
*Add 9 to its previous number.*  
 (b) (i) Menambah 18 kepada nombor sebelumnya.  
*Add 18 to its previous number.*  
 (ii) Menambah 18 kepada nombor sebelumnya.  
*Add 18 to its previous number.*  
 5
- |   |   |    |    |    |   |   |
|---|---|----|----|----|---|---|
|   |   | 1  |    | 1  |   |   |
|   |   | 1  | 2  | 1  |   |   |
|   | 1 | 3  | 3  | 1  |   |   |
| 1 | 4 | 6  | 4  | 1  |   |   |
| 1 | 5 | 10 | 10 | 5  | 1 |   |
| 1 | 6 | 15 | 20 | 15 | 6 | 1 |
- 6  $p = 1 + 1 = 2$      $t = 5 + 8 = 13$   
 $q = 1 + 2 = 3$      $u = 8 + 13 = 21$   
 $r = 2 + 3 = 5$      $v = 13 + 21 = 34$   
 $s = 3 + 5 = 8$   
 7 C  
 8 (a) 80, 84, 88, 92  
 (b) 133, 123, 113, 103  
 (c) 20, 100, 500, 2500  
 (d) 64, 32, 16, 8  
 9 (a) 11, 35    (b)  $\frac{1}{4}, 4$   
 (c) 52, 49    (d) 1.5, 0.75  
 10 C  
 11 (a) 4, 4, 4, 4    (b) 4  
 (c) 1, 1, 1, 1, 1, 1

- 12 (a)  $n + 6, n = 1, 2, 3, 4, \dots$   
 (b)  $3n, n = 1, 2, 3, 4, \dots$   
 (c)  $10n - 5, n = 1, 2, 3, 4, \dots$   
 13 (a) 1, 2, 3, 4  
 (b)  $n^2 + 2, n = 1, 2, 3, 4, \dots$   
 14 (a)  $T_1 = 17 = 4 \times 1 + 13$   
 $T_2 = 21 = 4 \times 2 + 13$   
 $T_3 = 25 = 4 \times 3 + 13$   
 $T_n = 4 \times n + 13$   
 (b) (i) 81    (ii) 193  
 15 (a) 161  
 (b)  $24n + 41$   
 (c) (i) 425    (ii)  $n = 53$

### Praktis Sumatif

- 1 C    2 D    3 D    4 B    5 C  
 6 (a) 22, 29, 36  
 (b) 20, 17, 8  
 (c) 320, 1 280  
 (d) 450, 0.72  
 7 (a)  $n, n = 1, 2, 3, 4, \dots$   
 (b)  $n^3, n = 1, 2, 3, 4, \dots$   
 (c)  $2n, n = 1, 2, 3, 4, \dots$   
 (d)  $n^2, n = 1, 2, 3, 4, \dots$   
 8  $T_n = 82 - 8n, T_8 = 18, T_{36} = -206$   
 9 (a) 1, 2, 3, 4...  
 (b)  $T_n = 2n + 2, n = 1, 2, 3, 4, \dots$   
 (c) (i) 52  
 (ii) 34

## Praktis 2

### Praktis Formatif

- 1 A  
 2 (a)  $2(3x + 4) = 2 \times 3x + 2 \times 4$   
 $= 6x + 8$   
 (b)  $4(2x - 5) = 4 \times 2x - 4 \times 5$   
 $= 8x - 20$   
 3 (a) (i)  $x^2$     (ii)  $x$   
 (iii)  $2x$     (iv) 2  
 (b)  $(x + 2)(x + 1)$   
 $= x^2 + x + 2x + 2$   
 $= x^2 + 3x + 2$   
 4 (a) ✗    (b) ✓    (c) ✗    (d) ✓  
 5 (a)  $4x^2 + 20x + 21$   
 (b)  $4x^2 - 31x - 8$   
 (c)  $6x^2 - 29x + 9$   
 (d)  $6x^2 + 7x - 10$

$$6 \quad (8p)^2 - (3r)^2 - 9r \times p + 9r^2$$

$$= 64p^2 - 9r^2 - 9pr + 9r^2$$

$$= 64p^2 - 9pr$$

- 7 A  
 8  $12x^2 + 45x + 34$   
 9 (a)  $5 + x$   
 (b)  $5 + 2x$   
 (c)  $4x^2 + 19x + 20$

10 B

(a) $3(2k + 1)$	$3, 2k + 1$
(b) $(y + 3)(y - 3)$	$y + 3, y - 3$
(c) $(a - 2c)^2$	$a - 2c$
(d) $(3x - 2)(x - 4)$	$3x - 2, x - 4$

12  $5p^2 - 20qr^3 = 5(pr^2 - 4qr^3)$   
 $= 5r^2(p - 4qr)$

- 13 (a)  $16(4p^2 + 1)$   
 (b)  $16(2p + 1)(2p - 1)$

- 14 (a)  $(x + 6)(x + 1)$   
 (b)  $(3x - 2)(x + 4)$

- 15 (a)  $x^2, 4x, 3x, 12$   
 (b)

	$x$	4
$x$		
3		

$(x + 4)(x + 3)$

- 16 (a)
- |     |        |      |
|-----|--------|------|
|     | $3x$   | 2    |
| $x$ | $3x^2$ | $2x$ |
| 2   | $6x$   | 4    |

(b)  $(3x + 2)(x + 2)$

17  $(4x - y)(x + 5y), 295.5$

- 18 (a)  $9x^2 + 24x - 5$   
 (b) RM2 164.56

19 C

- 20 (a) Benar/True  
 (b) Palsu/False  
 (c) Palsu/False  
 (d) Benar/True

21  $\frac{7 - 2p}{(p + 3)(p - 1)}$

- 22 (a) ✓    (b) ✓    (c) ✗    (d) ✓

- 23 (a) Benar/True  
 (b) Palsu/False

- 24 (a) ✓    (b) ✗

25 A

26 (a)  $\frac{2(9 + s^2)}{3rs}$     (b)  $\frac{1 - 6x}{6(3x + 1)}$

### Praktis Sumatif

- 1 D 2 C 3 B 4 A 5 B  
 6  $5a^2 + 12a + 16$   
 7  $(10x^2 + x - 24) \text{ cm}^2$   
 8 (a)  $5r(2t + 3)$   
 (b)  $(2n + 1)(n - 7)$   
 9 (i)  $5k - 10$   
 (ii)  $5(k - 2)$   
 (iii)  $x^2 - 9$   
 (iv)  $(x + 3)(x - 3)$   
 (v)  $m^2 + 8m + 16$   
 (vi)  $(m + 4)^2$   
 (vii)  $3ac + ad - 6bc - 2bd$   
 (viii)  $(a - 2b)(3c + d)$   
 10 (a)  $(2p - 5)(3r - p)$   
 (b)  $(4x - 3y)(z + 2w)$   
 11 (a)  $\frac{2}{f(f + 3)}$   
 (b)  $\frac{3 - 41p^2}{6(1 + 3p)(1 - 4p)}$   
 12 (a)  $\frac{3(x - 1)}{4}$   
 (b)  $\frac{6t}{(2t - 3)(4t + 3)}$   
 13 (a)  $\frac{5k(h + 3k)}{6h(3h + k)}$   
 (b)  $\frac{7n^2}{3m}$

### Praktis 3

#### Praktis Formatif

- 1 A  
 2 (a)  $m = p^2$  (b)  $k = 3(r + x)$   
 (c)  $z = y - w$  (d)  $s = \frac{a}{\sqrt{x}}$   
 3  $s = 500 + 2h$   
 4 (a)  $p = 2(m + n + 6)$   
 (b)  $L = \frac{1}{2}(xy - 16)$   
 5 (a)  $10 = 3 \times 1 + 7$   
 $13 = 3 \times 2 + 7$   
 $16 = 3 \times 3 + 7$   
 $19 = 3 \times 4 + 7$   
 (b)  $y = 3x + 7$   
 6 (a)  $k$  (b)  $y$  (c)  $m$  (d)  $w$   
 7 (a)  $12a + 5b = 60$   
 (b)  $12a = 5(12 - b)$   
 (c)  $\frac{5(12 - b)}{12}$   
 8 (a) ✗ (b) ✓ (c) ✓  
 9  $3k + 4 = 4m^2$   
 $3k = 4(m^2 - 1)$   
 $k = \frac{4(m^2 - 1)}{3}$   
 10 D

- 11 (a)  $\frac{y(8 - w^3)}{2}$   
 (b)  $y = \frac{2x}{8 - w^3}$   
 12 (a)  $w = 99$  (b)  $s = -3$   
 (c)  $t = 5$   
 13 (a)  $y = 24$  (b)  $r = \frac{1}{6}$   
 (c)  $p = \frac{2}{3}$  (d)  $p = \frac{y}{12r}$   
 14 (a)  $t = \frac{4r}{1 + 3r}$  (b)  $t = \frac{5}{4}$   
 15 (a) (i)  $w = \frac{pq}{p + q}$   
 (ii)  $p = \frac{qw}{q - w}$   
 (b) (i)  $w = \frac{3}{2}$   
 (ii)  $p = 10$   
 16 (a) 27.9 (b) 35

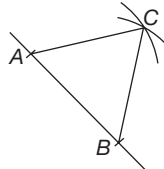
### Praktis Sumatif

- 1 D 2 C 3 C 4 D 5 C  
 6 (a) Ya/Yes (b)  $p = \frac{3r}{5(2 - r)}$   
 7  $x = \frac{y + 16}{2(2y - 1)}$   
 8  $f = \frac{(1 - 6h)^2}{8}$   
 9  $y = \frac{48}{32 - g^2}$   
 10 (a)  $S = 2(ab + bc + ac)$   
 (b)  $a = 10$

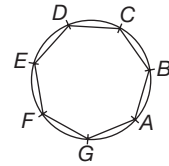
### Praktis 4

#### Praktis Formatif

- 1 C  
 2 (a) (i) berbeza/different  
 (ii) sama/same  
 (iii) poligon tak sekata  
 irregular polygon  
 (b) (i) sama/same  
 (ii) sama/same  
 (iii) poligon sekata  
 regular polygon  
 3 (a) 3, =, ialah/is  
 (b) 1, ≠, bukan/not  
 4 (a) ✓ (c) ✓  
 5



6



7 B

8 (a) (i) 

3	1	180°
4	2	360°
5	3	540°
6	4	720°

(ii) 

3	1	180°
4	2	360°
5	3	540°
6	4	720°

(iii) 

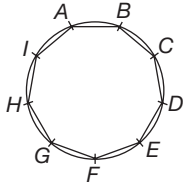
3	1	180°
4	2	360°
5	3	540°
6	4	720°

(iv) 

3	1	180°
4	2	360°
5	3	540°
6	4	720°

- (b) (i)  $n - 2$   
 (ii)  $(n - 2) \times 180^\circ$   
 9 (a)  $a = 100^\circ, b = 110^\circ, c = 75^\circ,$   
 $d = 56^\circ, e = 19^\circ$   
 (b)  $360^\circ$   
 10 (a)  $360^\circ$   
 (b)  $720^\circ$   
 11 Bilangan sisi/Number of sides = 5  
 Hasil tambah sudut pedalaman  
 Sum of interior angles  
 $= (5 - 2) \times 180^\circ$   
 $= 540^\circ$   
 $x + 70^\circ + 100^\circ + 130^\circ + 140^\circ$   
 $= 540^\circ$   
 $x = 100^\circ$   
 12  $n = 6$   
 $x = \frac{(6 - 2) \times 180^\circ}{6} = 120^\circ$   
 13 (a) (i)  $360^\circ$  (ii) 74  
 (b) (i)  $360^\circ$  (ii) 113  
 14 (a)  $72^\circ$  (b)  $30^\circ$   
 15 18  
 16 A  
 17  $81^\circ$

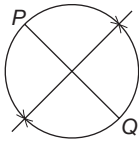
### Praktis Sumatif

- 1 B 2 A 3 B 4 C 5 C  
 6 (a) 9  
 (b)  $140^\circ$   
 (c)   
 7  $35^\circ$   
 8  $18^\circ$   
 9 (a)  $120^\circ$   
 (b) 6  
 10  $x = 108^\circ, y = 24^\circ$   
 11 (a)  $n = 9, x = 140^\circ$   
 (b) 7 : 2

## Praktis 5

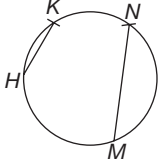
### Praktis Formatif

- 1 D  
2

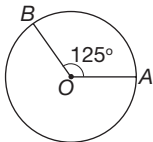


- 3 (a) Garis lurus yang menyambungkan dua titik pada bulatan.  
*Straight line joining two points on circle.*  
(b) Sebahagian daripada lilitan.  
*Part of a circumference.*  
(c) Perimeter sebuah bulatan.  
*Perimeter of a circle.*  
(d) Rantau yang dibatasi oleh lengkok dan perentas.  
*Region bounded by an arc and a chord.*

4



5

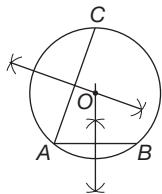


6 C

- 7 (a) ✓  
(b) ✓  
(c) ✗

- 8 (a) Benar/True  
(b) Benar/True

9 2.2 cm



- 10 (a) 24 cm  
(b) 75 cm  
11 C  
12 (a) 3.14, 3.14, 3.14, 3.14, 3.14  
(b) 3.14, 3.14

$$13 \ x = \frac{1}{2} \times \text{lilitan/circumference}$$

$$= \frac{1}{2} \times 2\pi \times j$$

$$= \pi \times j$$

$$y = j$$

Luas bulatan/Area of circle

$$= x \times y$$

$$= \pi \times j \times j$$

$$= \pi \times j^2$$

- 14 (a) 8.79 cm  
(b) 13.19 cm  
(c) 9.42 cm  
(d) 125.60 cm  
15 (a) 44 cm, 154 cm<sup>2</sup>  
(b) 35 mm, 3 850 mm<sup>2</sup>  
(c) 2.1 m, 13.2 m  
16 (a) 2π cm  
(b) 8π cm  
(c) 7π cm  
17 (a) 11 cm  
(b) 9 cm  
(c) 120°

$$18 \ \frac{200^\circ}{360^\circ} \times 2 \times \frac{22}{7} \times j = 440$$

$$j = 126$$

- 19 (a) 22 cm<sup>2</sup>  
(b) 594 cm<sup>2</sup>

- 20 (a) 60°  
(b) 9 cm

- 21 (a) 15 cm  
(b) 31.4 cm  
(c) 91.4 cm

22 C

- 23 (a) 60° + 90° = 150°  
(b) Panjang lengkok PQ  
*Length of arc PQ*  
$$= \frac{150^\circ}{360^\circ} \times 2 \times \frac{22}{7} \times 42$$
  
$$= 110 \text{ cm}$$

- (c) Perimeter bagi rantau berlorek  
*Perimeter of the shaded region*  
$$= 110 + 21 + 21 + 21 + 42$$
  
$$= 215 \text{ cm}$$

### Praktis Sumatif

1 D 2 B 3 A 4 B 5 C

- 6 (a) 16.6 cm  
(b) 305 cm<sup>2</sup>

## Praktis 6

### Praktis Formatif

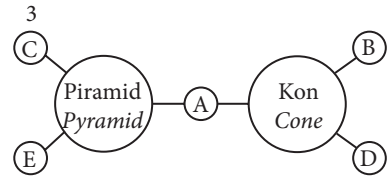
1 D

- 2 (a) Kuboid/Cuboid

(b) Silinder/Cylinder

(c) Kon/Cone

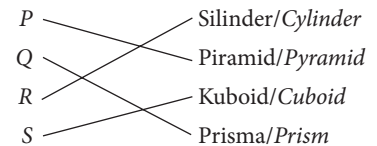
(d) Piramid/Pyramid



4 C

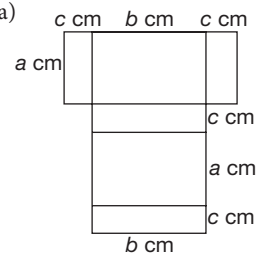
5 C

6



7 B

8 (a)

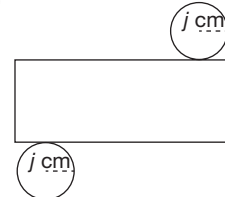


$$(b) \ ac + ab + bc + ac + ab + bc$$

$$= 2ac + 2ab + 2bc$$

$$= 2(ac + ab + bc) \text{ cm}^2$$

9 (a)



- (b) Panjang segi empat tepat  
= lilitan bulatan  
*Length of rectangle*  
= circumference of circle  
$$= 2\pi j \text{ cm}$$

Lebar segi empat tepat  
= tinggi silinder  
*Width of rectangle*  
= tinggi cylinder  
$$= t \text{ cm}$$

Luas permukaan silinder  
*Surface area of cylinder*

= luas segi empat tepat

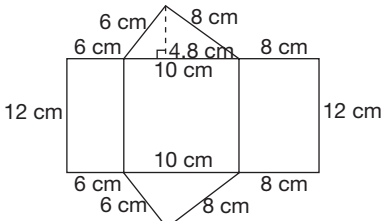
+ 2 × luas bulatan

= area of rectangle +

2 × area of circle

$$= 2\pi j \times t + 2 \times \pi j^2$$

10 (a)



(b) 336 cm<sup>2</sup>

11 Luas permukaan/Surface area  
 $= 2 \times \pi \times 4^2 + 2\pi \times 4 \times 10$   
 $= 32\pi + 80\pi$   
 $= 112\pi$  cm<sup>2</sup>

12 (a) 8 cm (b) 144 cm<sup>2</sup>  
 (c) 48 cm<sup>2</sup> (d) 336 cm<sup>2</sup>

13 (a) 314 cm<sup>2</sup>  
 (b) 942 cm<sup>2</sup>  
 (c) 1 256 cm<sup>2</sup>

14 2, 4, 2, 16

15 (a) 616 cm<sup>2</sup>  
 (b) 2 464 cm<sup>2</sup>

16  $2 \times \pi \times 6^2 + 2\pi \times 6 \times y = 216\pi$   
 $72 + 12y = 216$   
 $12y = 144$   
 $y = 12$

17 (a) 5 cm

(b) 455.7 cm<sup>2</sup>

18 (a) ABCD: 160 cm<sup>2</sup>  
 ABFE: 120 cm<sup>2</sup>  
 BCGF: 192 cm<sup>2</sup>  
 EFJK: 28 cm<sup>2</sup>  
 FGLK: 80 cm<sup>2</sup>  
 JKLM: 64 cm<sup>2</sup>

(b) 106 400 mm<sup>2</sup>

19 B

20 (a)  $\frac{1}{2} \times$  isi padu kuboid

$\frac{1}{2} \times$  volume of cuboid

$= \frac{1}{2} \times a \times b \times c$

= luas tapak  $\times$  tinggi  
 area of base  $\times$  height

(b) luas bulatan  $\times$  tinggi  
 area of circle  $\times$  height  
 $= \pi r^2 t$

21 (a)  $3 \times$  isi padu piramid  
 $3 \times$  volume of pyramid

(b)  $\frac{1}{3} \times$  luas tapak  $\times$  tinggi

$\frac{1}{3} \times$  base area  $\times$  height

22 96 cm<sup>3</sup>

23 (a) 28 cm<sup>3</sup>

(b) 12 cm<sup>3</sup>

(c) 8 cm

24 (a) 179.7 cm<sup>3</sup>

(b) 493 cm<sup>3</sup>

(c) 5 352.4 cm<sup>3</sup>

25 (a)  $\frac{1}{2} \times 8 \times 16 \times 11 = 704$

(b)  $\frac{22}{7} \times j^2 \times 14 = 704$

$j^2 = 16$

$j = 4$  cm

26  $\pi \times 3^2 \times 4 + \frac{2}{3}\pi \times 3^3$

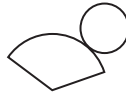
$= 36\pi + 18\pi = 54\pi$  cm<sup>2</sup>

27 (a) 12 (b) 922 cm<sup>2</sup>

### Praktis Sumatif

1 A 2 C 3 D 4 C 5 C

6 (a)



(b) (i) 100.8° (ii) 704 cm<sup>2</sup>

7 (a) 5 cm (b)  $722\frac{6}{7}$  cm<sup>2</sup>

8 12 cm

## Praktis 7

### Praktis Formatif

1 B

2 (a) 5 (b) 3

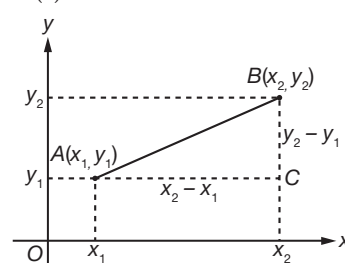
(c) 5 (d) 10

3 (a) 4 units (b) 7 units

(c) 18 units (d) 11 units

4 C

5 (a)

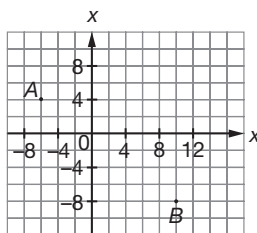


(b)  $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

6 (a) 6.40 unit/units

(b) 17.20 unit/units

7 (a)



(b) 20 unit/units

8 (a) 15 unit/units

(b) -6

(c) 18 unit/units

9 (a)  $h = 1, k = -3$

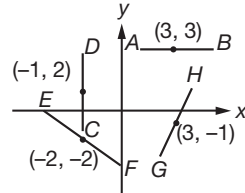
(b) (i) 13 unit/units

(ii) 15 unit/units

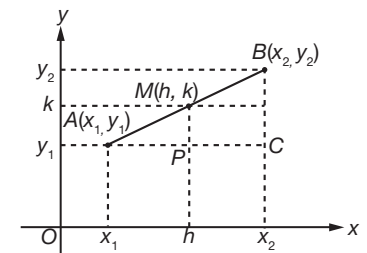
(c) 40 unit/units

10 B

11



12 (a)



(b)

$$AP = PC$$

$$h - x_1 = x_2 - h$$

$$2h = x_1 + x_2$$

$$h = \frac{x_1 + x_2}{2}$$

$$CQ = QB$$

$$k - y_1 = y_2 - k$$

$$2k = y_1 + y_2$$

$$k = \frac{y_1 + y_2}{2}$$

(c)  $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

13 (a) (5, 3) (b) (-3, 0)

(c) (-3, 6)

14 (a)  $\frac{x-5}{2} = 6$

$x - 5 = 12$

$x = 17$

(b)  $\frac{y+3}{2} = -1$

$y + 3 = -2$

$y = -5$

15  $p = -5$

$q = 2$

$r = 5$

$s = 3$

$t = -2$

16  $m = 12, n = 8$

17 A

18 (a) ✓ (b) ✗ (c) ✓

19 (a) (7, 3)

(b) (i)  $(1, \frac{1}{2})$

(ii)  $6\frac{1}{2}$  unit/units

(c) Ya, jarak  $K$  dari pusat bulatan adalah kurang daripada jejari bulatan.

*Yes, the distance  $K$  from the centre of circle is less than the radius of circle.*

### Praktis Sumatif

1 B 2 C 3 C 4 B 5 B

6 (a) -8

(b) 12.17 unit/units

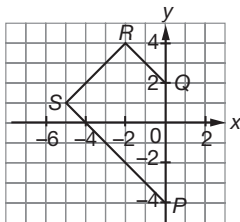
7 (a)  $M(2, 2)$  (b) 5 unit/units

8 (a)  $Q(5, 6)$  (b) 9.85 unit/units

9 (a)  $p = -3, q = -6$

(b) 7.91 unit/units

10 (a)  $k = 1$



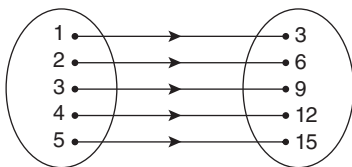
(b)  $(-\frac{5}{2}, -\frac{3}{2})$  (c) 4.24 unit/units

## Praktis 8

### Praktis Formatif

1 C

2 (a)



(b) Satu/One, satu/one

(c) (i)  $\{1, 2, 3, 4, 5, 6\}$

(ii)  $\{3, 6, 9, 12, 15\}$

3 (a) Hubungan antara set  $A$  dengan set  $B$  adalah bukan suatu fungsi.

*The relation between set  $A$  and set  $B$  is not a function.*

(b) Unsur 9 dalam set  $A$  mempunyai dua unsur 8 dan 10 dalam set  $B$ .

*Element 9 in set  $A$  has two elements 8 and 10 in set  $B$ .*

4 (a) Fungsi, setiap nilai  $x$  mempunyai hanya satu nilai  $y$ .  
*A function, each value of  $x$  has only one value of  $y$ .*

(b) Bukan fungsi, 1 mempunyai dua nilai 1 dan 4.  
*Not a function, 1 has two values 1 and 4.*

5 Ya, setiap nilai  $x$  mempunyai hanya satu nilai  $y$ .  
*Yes, each value of  $x$  has only one value of  $y$ .*

6 (a)  $\{(0, 1), (1, 3), (2, 5), (3, 7)\}$   
Fungsi, setiap nilai  $x$  mempunyai hanya satu nilai  $y$ .  
*A function, each value of  $x$  has only one value of  $y$ .*

(b)  $\{(0, 0), (1, 2), (1, -2), (4, 4)\}$   
Bukan fungsi, nilai  $x = 1$  mempunyai dua nilai  $y = 2$  dan  $y = -2$ .

*Not a function, the value of  $x = 1$  has two values of  $y = 2$  and  $y = -2$ .*

7 (a) Fungsi banyak kepada satu.  
*Many-to-one function.*

(b) Fungsi satu kepada satu.  
*One-to-one function.*

(c) Fungsi satu kepada satu.  
*One-to-one function.*

(d) Fungsi banyak kepada satu.  
*Many-to-one function.*

8 (a) Fungsi satu kepada satu.  
*One-to-one function.*

(b) Fungsi banyak kepada satu.  
*Many-to-one function.*

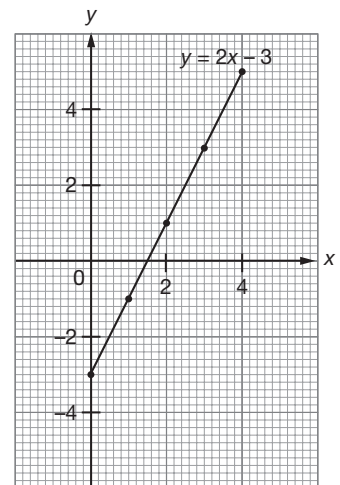
9 B

10 (a)  $y = 4x + 9$

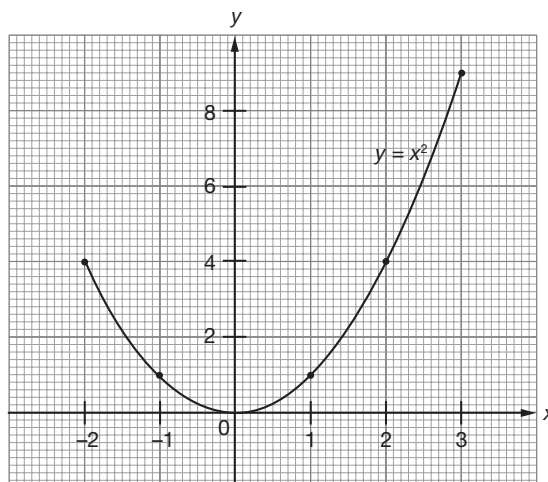
(b)  $y = x^2 + 3x$

11 (a)

$x$	0	1	2	3	4
$y$	-3	-1	1	3	5

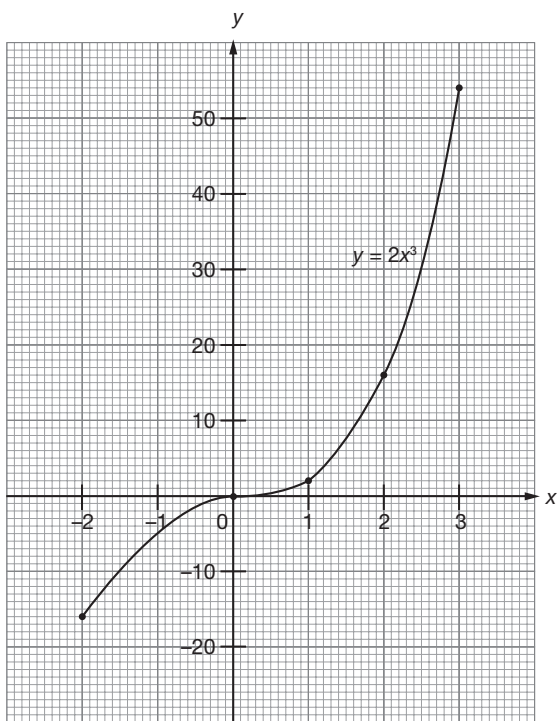


$x$	-2	-1	0	1	2	3
$y$	4	1	0	1	4	9



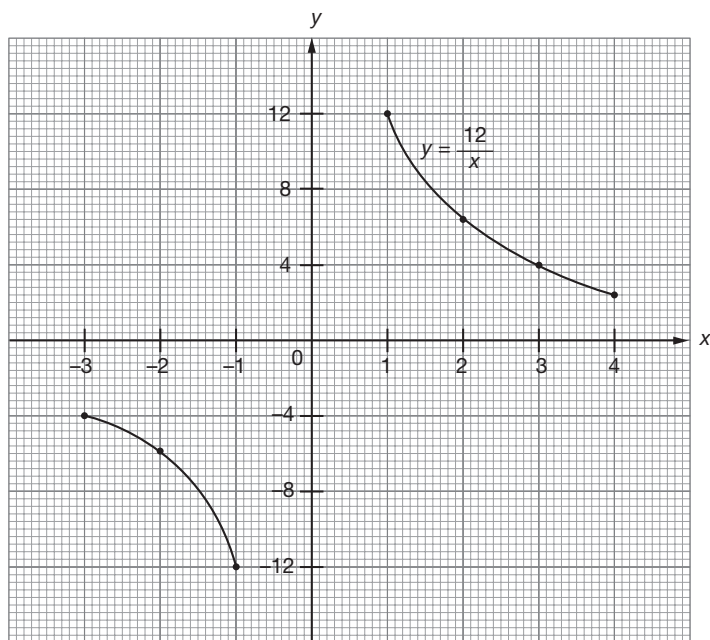
(c)

$x$	-2	-1	0	1	2	3
$y$	-16	-2	0	2	16	54



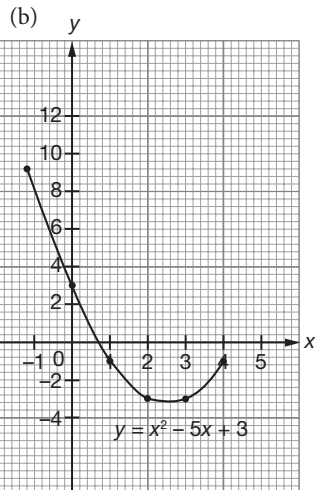
(d)

$x$	-3	-2	-1	1	2	3	4
$y$	-4	-6	-12	12	6	4	3



12 (a)

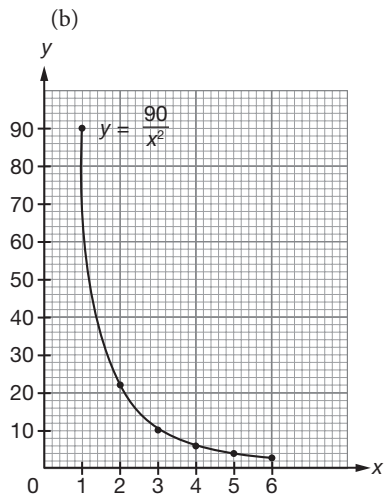
$x$	-1	0	1	2	3	4
$y$	9	3	-1	-3	-3	-1



- 13 (a)  $y = 2$  (b)  $y = 5.2$   
(c)  $y = 4.8$

14 (a)

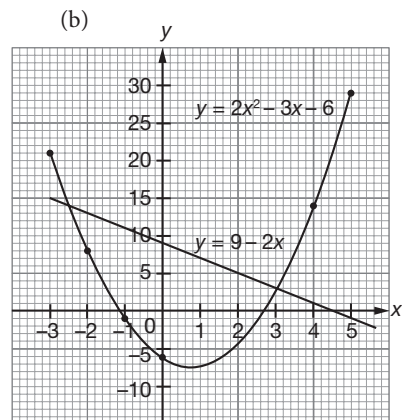
$x$	2	3	5	6
$y$	22.5	10	3.6	2.5



- (c) (i) 3 (ii) 1.3

15 (a)

$x$	-2	-1	2	3
$y$	8	-1	-4	3

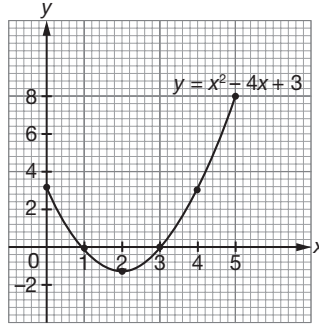


(c)  $y = 9 - 2x$   
 $x = -2.5, x = 3$

**Praktis Sumatif**

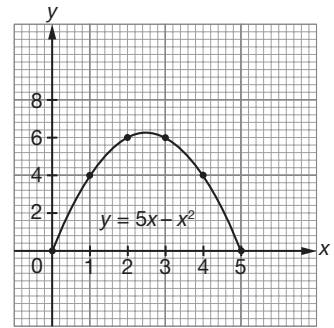
- 1 C 2 A 3 B 4 A 5 D  
 6 (a) Fungsi, setiap nilai  $x$  mempunyai hanya satu nilai  $y$ .  
*A function, each value of  $x$  has only one value of  $y$ .*  
 (b) Bukan fungsi, 3 ialah nombor perdana dan nombor ganjil.  
*Not a function, 3 is a prime number and an odd number.*  
 (c) Fungsi, setiap nilai  $x$  mempunyai hanya satu nilai  $y$ .  
*A function, each value of  $x$  has only one value of  $y$ .*

7	$x$	0	1	2	3	4	5
	$y$	3	0	-1	0	3	8



- (a) 1.2  
 (b) 4.6

9	$x$	0	1	2	3	4	5
	$y$	0	4	6	6	4	0

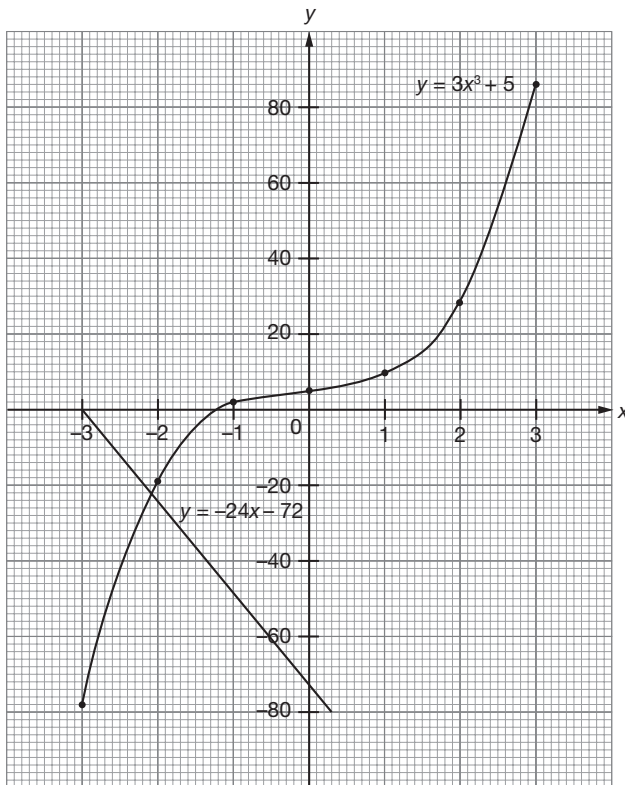


- (a) 5.2 m<sup>2</sup>  
 (b) 0.7 m or 4.3 m  
 (c) 6.2 m<sup>2</sup>

8 (a)

$x$	-2	-1	3
$y$	-19	2	86

(b)



- (c) (i) -2.1  
 (ii) 5.7

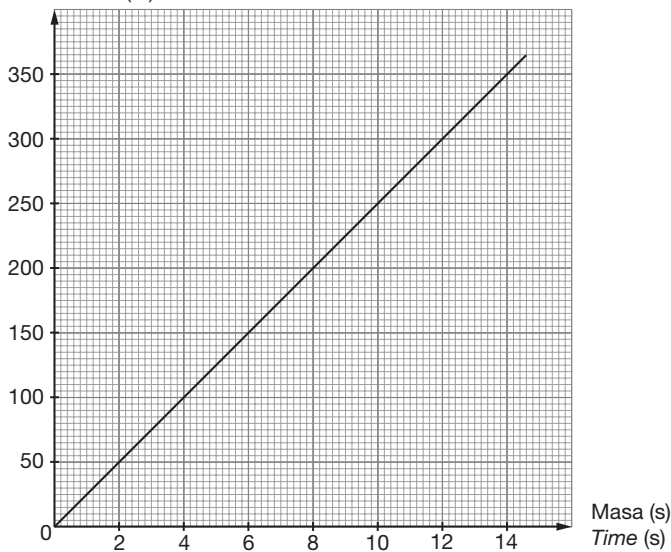
**Praktis 9**

**Praktis Formatif**

- 1 B  
 2 (a) 70 (b) 1  
 (c) 8, 1  
 3 Bala, Yunus, Nasir, Elmi, Sukri, Chew  
 4 (a) Laju tak seragam  
*Non-uniform speed*  
 (b) Laju seragam/*Uniform speed*  
 5 (a) Laju seragam. Motosikal itu bergerak melalui jarak 5 km dalam selang masa 10 minit.  
*Uniform speed. The motorcycle travels through a distance of 5 km in time intervals of 10 minutes.*  
 (b) Laju tak seragam. Lori itu bergerak melalui jarak-jarak berlainan dalam selang masa 20 saat.  
*Non uniform speed. The lorry travels through different distances in time intervals of 20 seconds.*  
 6 (a) Laju seragam/*Uniform speed*  
 (b) Laju tak seragam/*Non uniform speed*  
 7 (a) (i) 100 km/j  
 100 km/h  
 (ii) 80 km/j  
 80 km/h  
 (b) Tidak/*No*  
 8 (a) 10 cm/s (b) 4.8 km/j  
 4.8 km/h  
 9 (a) 60 m (b) 105 km  
 (c) 90 km

- 10 (a) 3 jam 48 minit  
3 hours 48 minutes  
(b) 5 jam/hours  
(c)  $2\frac{1}{2}$  jam/hours
- 11 (a) 1.5 (b) 60  
(c) 150 (d) 70
- 12 (a) ✓ (b) ✓ (c) ✗ (d) ✗
- 13 4.2 km/j  
4.2 km/h
- 14 (a) Jarak/Distance PQ  
 $= 90 \times 1\frac{1}{3} = 120$  km  
Jarak/Distance PR  
 $= 120 + 80 = 200$  km  
(b) Jumlah masa yang diambil dari P ke R  
Total time taken from P to R  
 $= 1\frac{1}{3} + \frac{2}{3}$   
 $= 2$  jam/hours

- (b) Jarak (m)  
Distance (m)



- (c) Laju seragam  
Uniform speed
- 7 (a) 240 km (b) 82.5 km/j  
82.5 km/h
- 8 (a) 54 (b) 60

## Praktis 10

### Praktis Formatif

- 1 A  
2  $r, t, s, p, q$   
3 Condong ke atas dari kiri ke kanan:  $b, d, e$   
Inclined upward from left to right:  $b, d, e$

Laju purata/Average speed  
 $= \frac{200}{2}$   
 $= 100$  km/j  
100 km/h

- 15 A                      16 B
- 17 (a) bertambah/increases, 1  
(b) berkurang, 5, minit  
decreases, 5, minute
- 18 (a) (i)                      (b) (ii)
- 19 (a) 0.4 m/s<sup>2</sup>  
(b) -0.4 m/s<sup>2</sup>  
(c) 0.8 m/s<sup>2</sup>
- 20 (a) 0.3                      (b) 27  
(c) 78                      (d) 20

### Praktis Sumatif

- 1 B    2 A    3 B    4 A    5 A
- 6 (a) (i) 25 m/s  
(ii) 25 m/s  
(iii) 25 m/s

Jarak mengufuk di antara A dan B  
Horizontal distance between A and B

$$= x_2 - x_1$$

Kecerunan garis lurus  
Gradient of straight line

$$= \frac{\text{Jarak/Distance BC}}{\text{Jarak/Distance AC}}$$

$$= \frac{y_2 - y_1}{x_2 - x_1}$$

(b) Kecerunan garis lurus  
Gradient of straight line

$$= \frac{0 - b}{a - 0}$$

$$= -\frac{b}{a}$$

$$= -\frac{\text{Pintasan-}y/y\text{-intercept}}{\text{Pintasan-}x/x\text{-intercept}}$$

- 6 (a) (i)  $\frac{3}{2}$                       (ii) -2  
(b) (i) ✗ (ii) ✓ (iii) ✓
- 7 (a)  $\frac{5}{14}$                       (b)  $-\frac{4}{31}$
- 8 (a)  $\frac{5}{2}$                       (b) 0  
(c)  $\infty$                       (d) -1
- 9 (a)  $\frac{4}{5}$                       (b)  $-\frac{3}{2}$                       (c) 3
- 10 (a)  $-\frac{1}{2}$                       (b)  $\frac{4}{3}$                       (c)  $-\frac{3}{5}$
- 11 (a) 3                      (b) 8                      (c) 4
- 12 (a) 6  
(b) (i) 0                      (ii)  $-\frac{15}{14}$                       (iii)  $\frac{15}{2}$

### Praktis Sumatif

- 1 D    2 C    3 D    4 A    5 A
- 6 (a)  $\frac{2}{5}$                       (b) Q(10, 6)  
(c) -12

## Praktis 11

### Praktis Formatif

Condong ke bawah dari kiri ke kanan:  $a, c, f$   
Inclined downward from left to right:  $a, c, f$

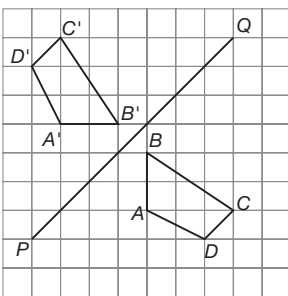
4 (a)


HK	3 unit/ units	4 unit/ units	$\frac{3}{4}$
PQ	4 unit/ units	3 unit/ units	$\frac{4}{3}$

- (b) (i) >                      (ii) >
- 5 (a) Jarak mencancang di antara A dan B  
Vertical distance between A and B  
 $= y_2 - y_1$

- 1 D  
2 (a) (i) Sama  
Same  
(ii) Sama  
Same  
(iii) Berlainan  
Different  
(iv) Berlainan  
Different  
(b) satu-dengan-satu  
one-to-one



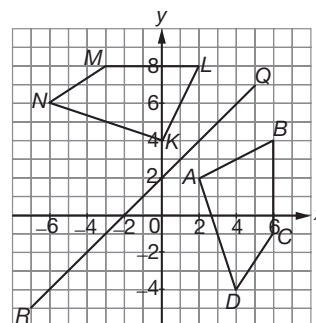
- 3 (a) Bentuk, Orientasi  
*Shape, Orientation*  
(b) Saiz, Kedudukan  
*Size, Position*
- 4 (a) ✓ (b) ✗ (c) ✓  
(d) ✓ (e) ✗ (f) ✗
- 5 (a) Kongruen  
*Congruent*  
(b) Bukan kongruen  
*Not congruent*  
(c) Kongruen  
*Congruent*
- 6 (a) Keserupaan  
*Similarity*  
(b) Kekongruenan  
*Congruency*
- 7 C
- 8 (a) Tidak/No  
(b) Ya/Yes  
(c) Ya/Yes
- 9 (a) (i) (b) (ii)
- 10 (a)  $\begin{pmatrix} 4 \\ 3 \end{pmatrix}$  (b)  $\begin{pmatrix} -4 \\ 3 \end{pmatrix}$   
(c)  $\begin{pmatrix} 3 \\ -4 \end{pmatrix}$  (d)  $\begin{pmatrix} -5 \\ -2 \end{pmatrix}$
- 11 (a) (-1, 3) (b) (2, 4)  
(c) (1, 6)
- 12  $a = 1, b = -2$
- 13  $\begin{pmatrix} 4 \\ -3 \end{pmatrix}$
- 14 A  
15 C
- 16 (a) ✓ (c) ✓
- 17 (a) Pantulan pada paksi-y  
*Reflection in the y-axis*  
(b) Pantulan pada paksi-x  
*Reflection in the x-axis*
- 18
- 
- 19 (a) (1, 2)  
(b) (3, -1)  
(c) (7, 2)  
(d) (5, 3)
- 20 II, III
- 21 (3, -6)
- 22 B
- 23 (a) Ya/Yes  
(b) Tidak/No  
(c) Ya/Yes

- 24 (a) A  
(b)  $90^\circ$   
(c) Lawan arah jam  
*Anticlockwise*
- 25 A
- 26 C
- 27 B
- 28 (a) (0, 3)  
(b) (-3, 3)  
(c) (-3, 1)
- 29 C
- 30 D
- 31 (a)  $P'Q', P'R', Q'R'$   
(b) sama/same  
(c) Suatu pantulan pada garis lurus  $x = 4$ .  
*A reflection in the straight line  $x = 4$ .*
- 32 (a) Putaran/Rotation  
(b) (i) sama/same  
(ii) sama/same  
(c) Objek P dan imej Q di bawah isometri itu adalah kongruen.  
*Object P and image Q under the isometry are congruent.*
- 33 (a) Translasi/Translation  $\vec{AA'}$   
(b)  $60^\circ + x = 140^\circ$   
 $x = 80^\circ$   
 $\angle A'B'C' = \angle ABC$   
 $y = 180^\circ - 140^\circ$   
 $= 40^\circ$
- 34 B
- 35 (a)   
(b) 4
- 36 (a) 3 (b) 2 (c) 2 (d) 2

### Praktis Sumatif

- 1 C 2 D 3 D 4 A 5 B
- 6 (a) Bentuk dan saiz objek adalah sama.  
Kedudukan dan orientasi objek adalah berlainan.  
*Shape and size of object are the same. Position and orientation of object are different.*  
(b) (i) S  
(ii) F  
(c) Poligon ABCDEF dan poligon PQRSTU adalah kongruen.  
*Polygons ABCDEF and PQRSTU are congruent.*
- 7 (a)  $a = 6, b = 3$   
(b)  $H(-4, -2), K(-2, -1), L(-3, 1), M(-2, 3), N(-5, 1)$

- 8 (a)

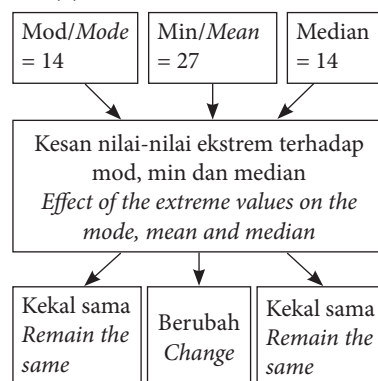


- (b)  $K(0, 4), N(-6, 6)$
- 9 (a)  $P(-2, 3), 90^\circ$ , Ikut arah jam  
 $P(-2, 3), 90^\circ$ , *clockwise*  
(b)  $A'(0, -3)$

## Praktis 12

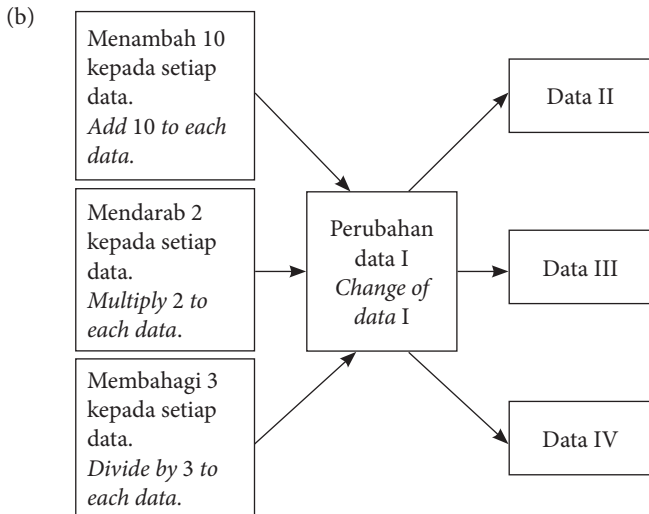
### Praktis Formatif

- 1 C
- 2 (a) 6 (b) 8 (c) 2, 7
- 3 (a) ✓ (b) ✗
- 4 (a) 23 (b) 21 (c) 20
- 5  $\frac{4 + 6 + 24 + 8 + 15}{20}$   
 $= \frac{57}{20}$   
 $= \text{RM}2.85$
- 6 (a) 19 (b) 16
- 7 (a) 13 mm (b) 22.5 g
- 8 (a) (i) 14  
(ii) 14  
(iii) 13  
(b)



9 (a)

	Mod Mode	Min Mean	Median
Data I	9	9.6	9
Data II	19	19.6	19
Data III	18	19.2	18
Data IV	3	3.2	3



- (c) (i) 10, 10, 10  
 (ii) 2, 2, 2  
 (iii) 3, 3, 3

10

Umur (tahun) Age (year)	Gundalan Tally	Kekerapan Frequency
1 - 2	HHH	5
3 - 4	II	2
5 - 6	HHH II	7

Umur (tahun) Age (year)	Gundalan Tally	Kekerapan Frequency
7 - 8	IIII	4
9 - 10	IIII	4
11 - 12	III	3

- 11 (a) 4 (b) 13  
 (c)  $(16 - 19)^{\circ}\text{C}$   
 12 (a) 21 - 30 (b) 70 - 89

13 (a)

Bil bulanan air (RM) Monthly water bill (RM)	Kekerapan Frequency	Titik tengah kelas Midpoint class	Kekerapan $\times$ Titik tengah kelas Frequency $\times$ Midpoint class
1 - 5	10	3	30
6 - 10	25	8	200
11 - 15	30	13	390
16 - 20	15	18	270
21 - 25	20	23	460
Jumlah Total			1 350

- (b)  $\frac{1\ 350}{100} = 13.50$   
 14 (a) (i) Mod/Mode  
 (ii) Data kategori  
 Categorical data  
 (b) (i) Mod/Mode  
 (ii) Data kategori  
 Categorical data  
 (c) (i) Median  
 (ii) Data berangka yang ada nilai ekstrem.

Numerical data with extreme value.

- (d) (i) Min/Mean  
 (ii) Data berangka yang tidak ada nilai ekstrem.  
 Numerical data without extreme value.

- 15 (a) ✗ (b) ✓  
 16 (a) 4 (b) 8 (c) 8  
 17 (a) 26 (b) 24.5 (c) 24.9  
 18 (a) 21 (b) 19.5 (c) 19.3

- 19 (a) Ya/Yes  
 (b) Azri : 72.8, Danesh : 78.8, Kumar : 78.8  
 (c) Danesh, Kumar, Azri

### Praktis Sumatif

1 A 2 C 3 B 4 A 5 B

- 6 (a) mod = 90 km/j,  
 min = 100.3 km/j,  
 median = 99 km/j  
 mode = 90 km/h,  
 mean = 100.3 km/h,  
 median = 99 km/h  
 (b) (i) mod = 0 km/j,  
 min = 10.3 km/j,  
 median = 9 km/j  
 mode = 0 km/h,  
 mean = 10.3 km/h,  
 median = 9 km/h  
 (ii) mod = 135 km/j,  
 min = 150.45 km/j,  
 median = 148.5 km/j  
 mode = 135 km/h,  
 mean = 150.45 km/h,  
 median = 148.5 km/h

7 (a) RM61.20

(b)

Harga (RM) Price (RM)	Kekerapan Frequency
1 - 20	1
21 - 40	6
41 - 60	5
61 - 80	8
81 - 100	2
101 - 120	3

- (c) RM60.90  
 (d) Min dihitung daripada data sebenar adalah jitu manakala min dihitung daripada data terkumpul adalah suatu anggaran.  
 Mean calculated from the actual data is accurate whereas mean calculated from the grouped data is an approximation.  
 8 (a) mod = 22, min = 22.55, median = 22  
 mode = 22, mean = 22.55, median = 22  
 (b) min, setiap data digunakan dalam pengiraan min.  
 mean, each data is used in the calculation of mean.

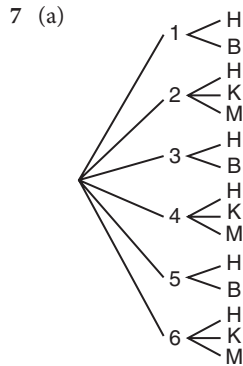
- 9 (a) mod = RM3 500,  
min = RM3 455,  
median = RM3 450  
mode = RM3 500,  
mean = RM3 455,  
median = RM3 450
- (b) median, ada nilai ekstrem,  
9 600.  
median, has an extreme value,  
9 600.
- (c) mod = RM4 000,  
min = RM3 955,  
median = RM3 950  
mode = RM4 000,  
mean = RM3 955,  
median = RM3 950

## Praktis 13

### Praktis Formatif

- 1 C
- 2 (a) Bilangan kali mendapat kesudahan gambar = 8  
Number of times of getting outcome head = 8  
Kebarangkalian eksperimen untuk mendapat gambar  
Experimental probability of getting head  
 $= \frac{8}{20} = \frac{2}{5}$
- (b) Bilangan kali mendapat kesudahan angka = 12  
Number of times of getting outcome tail = 12  
Kebarangkalian eksperimen untuk mendapat angka  
Experimental probability of getting tail  
 $= \frac{12}{20} = \frac{3}{5}$
- 3 (a)  $\frac{5}{12}$  (b)  $\frac{1}{4}$  (c)  $\frac{1}{3}$
- 4 (a) (i) 0.2500  
(ii) 0.2480  
(iii) 0.2508  
(iv) 0.2512  
(b) 0.25
- 5 D
- 6 (a) {(Angka, Angka), (Angka, Gambar), (Gambar, Angka), (Gambar, Gambar)}  
{(Tail, Tail), (Tail, Head), (Head, Tail), (Head, Head)}
- (b) (i) {(Angka, Gambar),

- (Gambar, Angka)}  
{(Tail, Head), (Head, Tail)}
- (ii) {(Angka, Angka), (Gambar, Gambar)}  
{(Tail, Tail), (Head, Head)}



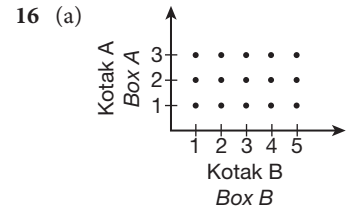
- (b) {(1, H), (1, B), (2, H), (2, K), (2, M), (3, H), (3, B), (4, H), (4, K), (4, M), (5, H), (5, B), (6, H), (6, K), (6, M)}
- (c) (i) {(1, B), (3, B), (5, B)}  
(ii) {(2, K), (4, K), (6, K)}  
(iii) {(1, H), (2, H), (3, H), (4, H), (5, H), (6, H)}
- 8 (a) (i)  $\frac{2}{15}$  (ii)  $\frac{1}{5}$   
(iii)  $\frac{4}{15}$  (iv)  $\frac{2}{5}$
- (b) (i) ✗ (ii) ✓  
(iii) ✓ (iv) ✗
- 9 (a)  $\frac{3}{7}$   
(b)  $\frac{4}{7}$

10

Peristiwa Event	Kebarangkalian Probability
Cerah Sunny	$\frac{4}{15}$
Mendung Cloudy	$\frac{1}{5}$
Ribut Petir Stormy	$\frac{1}{6}$
Hujan Rainy	$\frac{7}{30}$
Berangin Windy	$\frac{2}{15}$

- 11 (a) ✓ (b) ✗ (c) ✓
- 12 C
- 13  $A' = \{A, B, D, I, O, R, U\}$   
 $B' = \{B, D, G, K, N, R\}$   
 $C' = \{A, B, G, N, U\}$

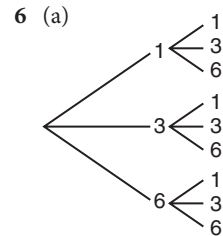
- 14 (a)  $\frac{2}{7}$  (b)  $\frac{19}{23}$   
(c) 0.616 (d) 0.0975
- 15 (a)  $\frac{7}{18}$  (b)  $\frac{5}{6}$



- (b) (i)  $\frac{4}{5}$   
(ii)  $\frac{13}{15}$
- 17 C
- 18 (a) 20  
(b) (i)  $\frac{3}{20}$  (ii)  $\frac{1}{10}$   
(iii)  $\frac{1}{2}$  (iv)  $\frac{7}{10}$
- 19 (a)  $\frac{1}{10}$  (b)  $\frac{1}{15}$   
(c)  $\frac{11}{30}$  (d)  $\frac{4}{15}$

### Praktis Sumatif

1 C 2 B 3 C 4 A 5 B



- $S = \{11, 13, 16, 31, 33, 36, 61, 63, 66\}$
- (b) (i) {11, 33, 66}  
(ii) {33, 36, 63, 66}  
(iii) {16, 36, 61, 63, 66}
- (c)  $P(A) = \frac{1}{3}$ ,  $P(B) = \frac{4}{9}$ ,  
 $P(C) = \frac{5}{9}$

7 (a) Pusingan kedua  
Second turn

	+	1	5	10	15	20
Pusingan pertama First turn	1	2	6	11	16	21
	5	6	10	15	20	25
	10	11	15	20	25	30
	15	16	20	25	30	35
	20	21	25	30	35	40

- (b) (i)  $\{(5, 5), (5, 10), (5, 15), (5, 20), (10, 5), (10, 10), (10, 15), (10, 20), (15, 5), (15, 10), (15, 15), (15, 20), (20, 5), (20, 10), (20, 15), (20, 20)\}$

- (ii)  $\{(10, 20), (15, 15), (15, 20), (20, 10), (20, 15), (20, 20)\}$

(c)  $P(A) = \frac{16}{25}$

$P(B') = \frac{19}{25}$

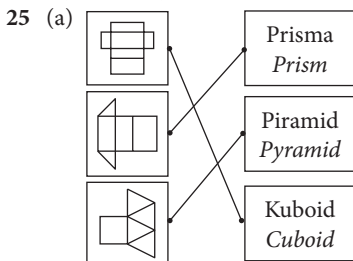
## Pentaksiran Sumatif

- 1 B 2 A 3 C 4 D 5 C  
 6 A 7 C 8 D 9 A 10 C  
 11 B 12 B 13 C 14 D 15 A  
 16 B 17 C 18 B 19 C 20 A

- 21  $9 = 2 \times 1 + 7$   
 $11 = 2 \times 2 + 7$   
 $13 = 2 \times 3 + 7$   
 $15 = 2 \times 4 + 7$   
 $2n + 7, n = 1, 2, 3, 4, \dots$

- 22 (a)  $MN \rightarrow -\frac{1}{2}$   
 $PQ \rightarrow 0$   
 $RS \rightarrow \frac{3}{2}$

- (b) 6  
 23 (a) (i) ✓ (ii) ✓ (iii) ✓  
 (b) 8  
 24 (a) ✓ (b) ✗ (c) ✓ (d) ✓



- (b)  $25r^2 - 36$   
 26 (a) (i)  $5p(9 + 2p)$   
 (ii)  $2(3r - 5)(2r + 1)$

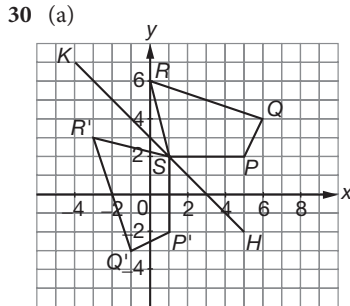
- (b)  $\frac{h + 5}{2(h - 3)}$   
 (c) (i)  $k = \frac{m^2 + 3n}{2}$   
 (ii)  $k = 20$

- 27 (a)  $x = 130^\circ, y = 105^\circ$   
 (b)  $x = 45, y = 60$   
 (c)  $130.5 \text{ m}^2$

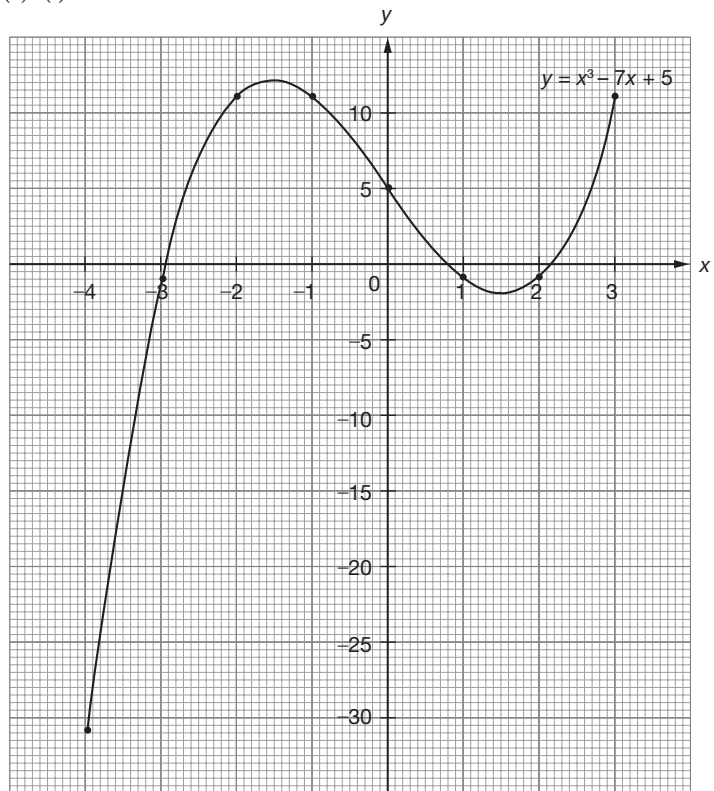
- 28 (a) 12  
 (b) (i)  $-\frac{5}{4}$  (ii) 4

- (c) (i)  $(-4, -5)$   
 (ii) 12.17 unit/*units*  
 29 (a) (i) 6.05 minit/*minutes*  
 (ii) 8.85 minit/*minutes*  
 (iii) 1.2

- (b) 108 km/j  
 108 km/h  
 (c) 107 cm

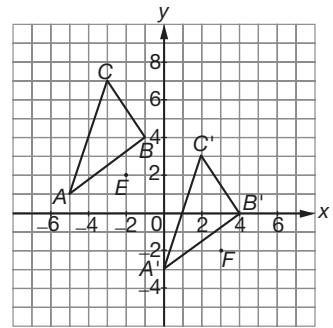


- (c) (i)



- (ii) 13.8  
 31 (a) (i) 10 - 12  
 (ii) 8.48  
 (b) (i)  $\frac{3}{29}$  (ii)  $\frac{20}{29}$

- (b) (i)  $\begin{pmatrix} 5 \\ -4 \end{pmatrix}$   
 (ii)



- (c) (i) (A, S), (A, I), (A, N),  
 (A, E), (R, S), (R, I),  
 (R, N), (R, E), (C, S),  
 (C, I), (C, N), (C, E))  
 (ii) (a)  $\frac{1}{3}$  (b)  $\frac{5}{6}$