



Jawapan Praktis Ekstra Sumatif

Bab 1

1. (a) 1; 8; 13

(b) 14; 23

2. (a)

(b)

3. (a) Menolak 3 dari nombor sebelumnya.

Subtract 3 from the previous number.

(b) Bahagi nombor sebelumnya dengan 2.

Divide the previous number by 2.

(c) Darab nombor sebelumnya dengan 4.

Multiply the previous number with 4.

4. (a) Bukan jujukan

Not a sequence

(b) Jujukan

Sequence

(c) Jujukan

Sequence

(d) Bukan jujukan

Not a sequence

5. (a) $4n - 3, n = 1, 2, 3, \dots$

(b) $42 - 4n, n = 1, 2, 3, \dots$

6. 9

7. $m = 16 \times 2 = 32$

$n = 64 \times 2 = 128$

$n - m = 128 - 32$
 $= 96$

8. $x = 30 \div 2 = 15$

$y = 30 + 2 = 32$

9.
 $5, 9, 13, 17, 21, 25, 29, 33, \dots$
 $T_1, T_2, T_3, T_4, T_5, T_6, T_7, T_8$
 $T_8 = 33$

10. 6, 11, 16, ...

Ungkapan algebra

Algebraic expression

$1 + 5n, n = 1, 2, 3, \dots$

$146 = 1 + 5n$

$5n = 145$

$n = 29$

Maka, 146 adalah sebutan jujukan ke-29.

Therefore, 146 is the 29th term.



Jawapan Praktis Ekstra Sumatif

Bab 2

1. (a) $-5(3r - 5t)$
 $= -15r + 25t$

(b) $-\frac{j}{9}(3m + 72)$
 $= -\frac{jm}{3} - 8j$

2. (a) $p^2 - 64$
 $= p^2 - 8^2$
 $= (p + 8)(p - 8)$

(b) $16 - 24x$
 $= 8(2 - 3x)$

3.

21	$21q^2t^2,$	$42qt^3,$	$-42qt^2$
q	q^2t^2	$2qt^3$	$-2qt^2$
t^2	qt^2	$2t^3$	$-2t^2$
	q	$2t$	-2

FSTB / HCF = $21qt^2$

4. (a) $\frac{q}{4p} - \frac{q}{4pq}$
 $= \frac{q^2 - q}{4pq}$
 $= \frac{q(q - 1)}{4pq}$
 $= \frac{q - 1}{4p}$

(b) $\frac{9a^2 - 1}{9ab} \times \frac{3a^2}{3a - 1}$
 $= \frac{(3a - 1)(3a + 1)}{9ab} \times \frac{3a^2}{3a - 1}$
 $= \frac{3a + 1}{3b} \times a$
 $= \frac{3a^2 + a}{3b}$

5. $\frac{3p}{(2p + q)q^2} \times (q^2 + 2pq)$
 $= \frac{3p}{2pq^2 + q^3} \times (q^2 + 2pq)$
 $= \frac{3p}{q(2pq + q^2)} \times (q^2 + 2pq)$
 $= \frac{3p}{q}$

6. $\frac{8y - 4yz}{y^2 - 9} \div \frac{12y^2z}{y - 3}$
 $= \frac{8y - 4yz}{y^2 - 9} \times \frac{y - 3}{12y^2z}$
 $= \frac{4y(2 - z)}{(y - 3)(y + 3)} \times \frac{y - 3}{12y^2z}$
 $= \frac{2 - z}{3yz(y + 3)}$

7. $(2a - 2b)^2 + a(4b - a)$
 $= 4a^2 - 8ab + 4b^2 + 4ab - a^2$
 $= 3a^2 + 4b^2 - 4ab$

8. Katakan tinggi papan tanda = p
Let the height of the signboard = p

$\frac{1}{2} \times (3x - 1) \times p = 0.5(15x^2 - 2x - 1)$
 $(3x - 1) \times p = 15x^2 - 2x - 1$

$p = \frac{15x^2 - 2x - 1}{3x - 1}$

$p = \frac{(3x - 1)(5x + 1)}{3x - 1}$

$p = (5x + 1) \text{ cm}$

9. Segi empat sama A / Square A:

Luas / Area = $(6p + 1)^2$
 $= (36p^2 + 12p + 1) \text{ cm}^2$

Perimeter = $4(6p + 1)$
 $= (24p + 4) \text{ cm}$

Segi empat sama B / Square B:

Luas / Area = $(5p - 7)^2$
 $= (25p^2 - 70p + 49) \text{ cm}^2$

Perimeter = $4(5p - 7)$
 $= (20p - 28) \text{ cm}$

10. 6 hari / days = $6 \times 24 = 144 \text{ jam / hours}$

Bilangan telefon bimbit yang dihasilkan dalam masa 1 jam

Number of mobile phones produced in 1 hour

$= \frac{72r + 24}{144}$
 $= \frac{24(3r + 1)}{144}$
 $= \frac{3r + 1}{6}$

Bilangan telefon bimbit yang dihasilkan dalam masa 12 jam

Number of mobile phones produced in 12 hours

$= \frac{3r + 1}{6} \times 12$
 $= 2(3r + 1)$
 $= 6r + 2$



Jawapan Praktis Ekstra Sumatif

Bab 3

1. $K = 5p(45)$

$$K = 225p$$

2. $L = k + (k - 4)$

$$L = 2k - 4$$

3. $Q = 9\sqrt{\frac{1}{P+R}}$

$$\sqrt{\frac{1}{P+R}} = \frac{Q}{9}$$

$$\frac{1}{P+R} = \frac{Q^2}{81}$$

$$P+R = \frac{81}{Q^2}$$

$$P = \frac{81}{Q^2} - R$$

4. $p^2 - 25q^2 = r^2$

$$25q^2 = p^2 - r^2$$

$$q^2 = \frac{p^2 - r^2}{25}$$

$$q = \frac{\sqrt{p^2 - r^2}}{5}$$

5. $2w + 3x = 12$

$$3x = 12 - 2w$$

$$x = \frac{12 - 2w}{3}$$

(a) $x = \frac{12 - 2(2)}{3}$

$$= \frac{8}{3}$$

(b) $x = \frac{12 - 2(-6)}{3}$

$$= 8$$

6. $d = \sqrt[3]{\frac{a}{b} + \frac{c}{4b}}$

$$= \sqrt[3]{\frac{-1}{-2} + \frac{3}{4(-2)}}$$

$$= \sqrt[3]{\frac{1}{2} - \frac{3}{8}}$$

$$= \sqrt[3]{\frac{1}{8}}$$

$$= \frac{1}{2}$$

7. Jumlah luas / Total Area

$$= \text{Luas trapezium} + \text{Luas segi empat sama}$$

$$\text{Area of trapezium} + \text{Area of square}$$

$$\frac{1}{2} \times (2 + 4x) \times (y + 1) + (y \times y) = 4L$$

$$\frac{1}{2}(2y + 2 + 4xy + 4x) = 4L - y^2$$

$$y + 1 + 2xy + 2x = 4L - y^2$$

$$2xy + 2x = 4L - y^2 - y - 1$$

$$x(2y + 2) = 4L - y^2 - y - 1$$

$$x = \frac{4L - y^2 - y - 1}{2y + 2}$$

8. (a) $N = \frac{m - 5}{2}$

(b) Gantikan $m = 17$ ke dalam $N = \frac{m - 5}{2}$

$$\text{Substitute } m = 17 \text{ into } N = \frac{m - 5}{2}$$

$$N = \frac{17 - 5}{2}$$

$$= 6$$

9. (a) $C = 17x + 50$

(b) $17x + 50 = 118$

$$17x = 68$$

$$x = 4$$

10. (a) $P = (2.40 - 1.25)x + (2.80 - 1.70)y$

$$P = 1.15x + 1.1y$$

(b) Gantikan $P = 72.55$ dan $y = 21$ ke dalam

$$P = 1.15x + 1.1y$$

$$\text{Substitute } P = 72.55 \text{ and } y = 21 \text{ into } P = 1.15x + 1.1y$$

$$72.55 = 1.15x + 1.1(21)$$

$$1.15x = 49.45$$

$$x = 43$$



1. (a) 5
(b) 6

$$\begin{aligned} 2. \quad 180^\circ - 5x &= x \\ 6x &= 180^\circ \\ x &= 30^\circ \end{aligned}$$

Bilangan sisi / Number of sides

$$= \frac{360^\circ}{30^\circ} = 12$$

3. Bilangan sisi bagi poligon dengan sudut pedalaman 108°

The number of sides for the polygon with interior angle of 108°

$$\frac{(n-2) \times 180^\circ}{n} = 108^\circ$$

$$180n - 360^\circ = 108n$$

$$72n = 360^\circ$$

$$n = 5$$

Bilangan sisi bagi poligon dengan sudut pedalaman 140°

The number of sides for the polygon with interior angle of 140°

$$\frac{(n-2) \times 180^\circ}{n} = 140^\circ$$

$$180n - 360^\circ = 140n$$

$$40n = 360^\circ$$

$$n = 9$$

Maka, jumlah bilangan sisi bagi hasil gabungan poligon ialah 12.

Therefore, the total number of sides of the composite polygon is 12.

4. (a) $2p + 3p = 180^\circ$
 $5p = 180^\circ$
 $p = 36^\circ$

(b) Sudut peluaran / Exterior angle

$$= 2(36^\circ)$$

$$= 72^\circ$$

Bilangan sisi / Number of sides

$$= \frac{360^\circ}{72^\circ}$$

$$= 5$$

Maka, poligon tersebut ialah sebuah pentagon.

Thus, the polygon is a pentagon.

$$\begin{aligned} 5. \quad x &= \frac{(6-2) \times 180^\circ}{6} \\ &= \frac{720^\circ}{6} \\ &= 120^\circ \\ \angle FAR &= \frac{(5-2) \times 180^\circ}{5} \\ &= \frac{540^\circ}{5} \\ &= 108^\circ \\ y &= 360^\circ - 120^\circ - 108^\circ \\ &= 132^\circ \end{aligned}$$

$$\begin{aligned} 6. \quad \angle PQR &= 180^\circ - 102^\circ \\ &= 78^\circ \end{aligned}$$

$$120^\circ + x + 90^\circ + 78^\circ = 360^\circ$$

$$288^\circ + x = 360^\circ$$

$$x = 72^\circ$$

7. Sudut pedalaman oktagon / Interior angle of octagon

$$= \frac{(8-2) \times 180^\circ}{8}$$

$$= 135^\circ$$

$$\angle QRW = 135^\circ - 90^\circ$$

$$= 45^\circ$$

$$\angle JRI = \frac{180^\circ - 90^\circ}{2}$$

$$= 45^\circ$$

$$x = 180^\circ - \angle QRW - \angle JRI$$

$$= 180^\circ - 45^\circ - 45^\circ$$

$$= 90^\circ$$

8. $70^\circ + 68^\circ + x + y + 93^\circ = 360^\circ$

$$231^\circ + x + y = 360^\circ$$

$$x + y = 129^\circ$$

9. Sudut pedalaman pentagon

Interior angle of pentagon

$$= \frac{(5-2) \times 180^\circ}{5}$$

$$= 108^\circ$$

$$a = \frac{180^\circ - 108^\circ}{2}$$

$$= 36^\circ$$

$$b = 180^\circ - 108^\circ$$

$$= 72^\circ$$

$$a + b = 36^\circ + 72^\circ$$

$$= 108^\circ$$

10. Sudut pedalaman poligon ABCDEF

Interior angle of polygon ABCDEF

$$= \frac{(6-2) \times 180^\circ}{6}$$

$$= 120^\circ$$

Sudut pedalaman poligon EFKLM

Interior angle of polygon EFKLM

$$= \frac{(5-2) \times 180^\circ}{5}$$

$$= 108^\circ$$

$$\angle MED = 360^\circ - 120^\circ - 108^\circ$$

$$= 132^\circ$$

$$\angle EMN = 180^\circ - 108^\circ$$

$$= 72^\circ$$

$$\angle EDN = 180^\circ - 120^\circ$$

$$= 60^\circ$$

$$y = 360^\circ - 132^\circ - 72^\circ - 60^\circ$$

$$= 96^\circ$$



1. (a) Sektor minor / *Minor sector*
 (b) Jejari / *Radius*
 (c) Perentas / *Chord*
 (d) Lengkuk minor / *Minor sector*

2. $\theta = 360^\circ - 100^\circ = 260^\circ$

Jejari / *Radius, j*

$$\frac{286}{3} = \frac{260^\circ}{360^\circ} \times 2 \times \frac{22}{7} \times j$$

$$= \frac{286}{63} \times j$$

$$j = \frac{286}{3} \times \frac{63}{286}$$

$$= 21 \text{ cm}$$

3. Luas semibulatan besar

Area of the big semicircle

$$= \frac{180^\circ}{360^\circ} \times \pi \times \left(\frac{8}{2}\right)^2$$

$$= 8\pi \text{ cm}^2$$

Panjang *PO* / *Length of PO*

$$= 8 \div 2 = 4 \text{ cm}$$

Luas semibulatan kecil

Area of the small semicircle

$$= \frac{180^\circ}{360^\circ} \times \pi \times \left(\frac{4}{2}\right)^2$$

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

Luas kawasan berlorek

Area of the shaded region

$$= 8\pi - 2\pi$$

$$= 6\pi \text{ cm}^2$$

4. Jumlah luas / *Total area*

$$= \frac{90^\circ}{360^\circ} \times \frac{22}{7} \times (7 + 3.5)^2$$

$$= 86.63 \text{ cm}^2$$

Luas kawasan yang tidak berlorek

Area of unshaded region

$$= \frac{90^\circ}{360^\circ} \times \frac{22}{7} \times 7^2$$

$$= 38.5 \text{ cm}^2$$

Luas kawasan berlorek

Area of shaded region

$$= 86.63 - 38.5$$

$$= 48.13 \text{ cm}^2$$

5. Luas sektor *GOEF* / *Area of sector GOEF*

$$= \frac{120^\circ}{360^\circ} \times \frac{22}{7} \times 10^2$$

$$= 104.76 \text{ cm}^2$$

Tinggi segi tiga *GOE*

The height of triangle GOE

$$= \sqrt{10^2 - 8^2}$$

$$= 6 \text{ cm}$$

Luas segi tiga *GOE*

Area of triangle GOE

$$= \frac{1}{2} \times 6 \times 16$$

$$= 48 \text{ cm}^2$$

Luas tembereng minor *EFG*

The area of minor segment EFG

$$= 104.76 - 48$$

$$= 56.76 \text{ cm}^2$$

6. Panjang *LM*

Length of LM

$$= 3 \div 2$$

$$= 1.5 \text{ cm}$$

Panjang *LO*

Length of LO

$$= 4 \div 2$$

$$= 2 \text{ cm}$$

$$OM = \sqrt{LO^2 - LM^2}$$

$$= \sqrt{2^2 - 1.5^2}$$

$$= 1.32 \text{ cm}$$

7. Panjang *AE*

Length of AE

$$= 24 \div 2$$

$$= 12 \text{ cm}$$

$$CO = AO = 15 \text{ cm}$$

Panjang *EO*

Length of EO

$$= \sqrt{15^2 - 12^2}$$

$$= 9 \text{ cm}$$

Maka, Panjang *CE*

Thus, the length of CE

$$= CO + EO$$

$$= 15 + 9$$

$$= 24 \text{ cm}$$

8. $GE = OF = 16 \div 2 = 8 \text{ cm}$

$$OE = OB = \sqrt{15^2 + 8^2}$$

$$= 17 \text{ cm}$$

Panjang *FB* / *The length of FB*

$$= 17 - 8$$

$$= 9 \text{ cm}$$

9. Diameter sebuah bulatan

The diameter of a circle

$$= 18 \div 3$$

$$= 6 \text{ cm}$$

Lilitan sebuah bulatan

The circumference of a circle

$$= \pi d$$

$$= 6\pi \text{ cm}$$

10. Luas semibulatan besar *OSTU*

*Area of big semicircle *OSTU**

$$= \frac{180^\circ}{360^\circ} \times \frac{22}{7} \times \left(\frac{19.6}{2}\right)^2$$

$$= 150.92 \text{ cm}^2$$

Panjang *SO*

*The length of *SO**

$$= 19.6 \div 2$$

$$= 9.8 \text{ cm}$$

Luas semibulatan *SO* = Luas semibulatan *TO*

*Area of semicircle *SO* = Area of semicircle *TO**

$$= \frac{180^\circ}{360^\circ} \times \frac{22}{7} \times \left(\frac{9.8}{2}\right)^2$$

$$= 37.73 \text{ cm}^2$$

Luas kawasan berlorek

The area of shaded region

$$= 150.92 - 2(37.73)$$

$$= 75.46 \text{ cm}^2$$



1.

Jenis pepejal Type of solids	Bilangan permukaan Number of surfaces	
	Melengkung Curve	Rata Flat
(a) Sfera / Sphere	1	0
(b) Kon / Cone	1	1

2. Luas permukaan / Surface area

$$= 2\left(\frac{1}{2} \times 6 \times 8\right) + (10 \times 4) + (8 \times 4) + (6 \times 4)$$

$$= 48 + 40 + 32 + 24$$

$$= 144 \text{ cm}^2$$

3. Luas permukaan / Surface area

$$= \left[\frac{22}{7} \times \left(\frac{14}{2}\right)^2\right] + \left(\frac{22}{7} \times \frac{14}{2} \times 11\right) + (11 \times 14)$$

$$= 154 + 242 + 154$$

$$= 550 \text{ cm}^2$$

4. Panjang sisi kubus / Length of side of the cube

$$= \sqrt[3]{27}$$

$$= 3 \text{ cm}$$

Jumlah luas permukaan / The total surface area

$$= 6(3 \times 3)$$

$$= 54 \text{ cm}^2$$

5. $V = \pi j^2 t$

$$\frac{22}{7} \times j^2 \times 15 = 2\,310$$

$$\frac{330}{7} j^2 = 2\,310$$

$$j^2 = 49$$

$$j = 7 \text{ cm}$$

$$\text{Diameter} = 7 \times 2 = 14 \text{ cm}$$

6. Katakan panjang sisi kubus = x

Let the length of side of the cube = x

$$2x \times 3x = 24$$

$$6x^2 = 24$$

$$x^2 = 4$$

$$x = 2 \text{ cm}$$

Isi padu / Volume

$$= 2(2) \times 3(2) \times 3(2)$$

$$= 4 \times 6 \times 6$$

$$= 144 \text{ cm}^3$$

7. Isi padu = Luas keratan rentas $\times$ Tinggi

Volume = Area of cross section $\times$ Height

$$\left[\frac{1}{2} \times (2 + 14) \times t\right] \times 10 = 320$$

$$8t \times 10 = 320$$

$$80t = 320$$

$$t = 4 \text{ cm}$$

8. Isi padu kon / Volume of cone = $\frac{1}{3}\pi j^2 t$

$$\frac{1}{3}\pi j^2 t = 154$$

$$\pi j^2 t = 462$$

Isi padu silinder / Volume of cylinder = $\pi j^2 t$

$$= 462 \text{ cm}^3$$

9. Isi padu air / Volume of water

$$= 10 \times 14 \times 11$$

$$= 1\,540 \text{ cm}^3$$

Tinggi paras air dalam bekas berbentuk silinder

The height of the water level in the cylindrical container

$$\pi j^2 t = 1\,540$$

$$\frac{22}{7} \times \left(\frac{14}{2}\right)^2 \times t = 1\,540$$

$$154t = 1\,540$$

$$t = 10 \text{ cm}$$

10. Isi padu silinder / Volume of cylinder

$$= \frac{22}{7} \times \left(\frac{42}{2}\right)^2 \times 50$$

$$= 69\,300 \text{ cm}^3$$

Isi padu hemisfera / Volume of hemisphere

$$= \frac{1}{2} \times \frac{4}{3} \times \frac{22}{7} \times \left(\frac{42}{2}\right)^3$$

$$= 19\,404 \text{ cm}^3$$

Isi padu pepejal yang tinggal

The volume of remaining solid

$$= 69\,300 - 19\,404$$

$$= 50\,896 \text{ cm}^3$$



Jawapan Praktis Ekstra Sumatif

Bab 7

$$\begin{aligned} 1. AB &= \sqrt{[6 - ([0])]^2 + [4 - ([4])]^2} \\ &= \sqrt{[6]^2 + 0^2} \\ &= [6] \text{ unit / units} \end{aligned}$$

$$\begin{aligned} 2. \left(\frac{-4+6}{2}, \frac{b+5}{2} \right) &= (a, 2) \\ \frac{-4+6}{2} &= a & \frac{b+5}{2} &= 2 \\ a &= 1 & b &= -1 \end{aligned}$$

3. Katakan koordinat titik $K = (x, 6)$

Let coordinates of point $K = (x, 6)$

$$\left(\frac{x+7}{2}, \frac{6+6}{2} \right) = (4, 2)$$

$$\frac{x+7}{2} = 4$$

$$x+7=8$$

$$x=1$$

Maka, koordinat titik H ialah $(1, 2)$.

Therefore, the coordinates of point H is $(1, 2)$.

4. Katakan koordinat titik $Q = (x, y)$

Let coordinates of point $Q = (x, y)$

$$\left(\frac{-2+x}{2}, \frac{8+y}{2} \right) = (4, 2)$$

$$\frac{-2+x}{2} = 4$$

$$-2+x=8$$

$$x=10$$

$$\frac{8+y}{2} = 2$$

$$8+y=4$$

$$y=-4$$

Maka, koordinat titik Q ialah $(10, -4)$.

Therefore, the coordinates of point Q is $(10, -4)$.

5. Koordinat titik F / The coordinates of point F

$$= \left(\frac{12+4}{2}, \frac{8+2}{2} \right)$$

$$= (8, 5)$$

Koordinat titik E / The coordinates of point E

$$= \left(\frac{8+4}{2}, \frac{5+2}{2} \right)$$

$$= \left(6, \frac{7}{2} \right)$$

$$\begin{aligned} 6. \sqrt{(-10-p)^2 + [0 - (-12)]^2} &= 15 \\ 100 + 20p + p^2 + 144 &= 225 \\ p^2 + 20p + 19 &= 0 \\ (p+1)(p+19) &= 0 \end{aligned}$$

$$p = -1 \text{ atau / or } -19$$

Maka / Therefore, $p = -1$

Abaikan
Ignore

7. (a) S

(b) Panjang PQ / Length of PQ

$$= 5 - (-1)$$

$$= 6$$

Tinggi segi tiga / The height of the triangle

$$= 7.5 - (-5)$$

$$= 12.5$$

Luas / Area

$$= \frac{1}{2} \times 6 \times 12.5$$

$$= 37.5 \text{ unit}^2$$

8. Katakan koordinat titik $B = (x, y)$

Let coordinates of point $B = (x, y)$

$$\left(\frac{6+x}{2}, \frac{3+y}{2} \right) = (6, 6)$$

$$\frac{6+x}{2} = 6$$

$$6+x=12$$

$$x=6$$

$$\frac{3+y}{2} = 6$$

$$3+y=12$$

$$y=9$$

Maka, koordinat titik A ialah $(2, 9)$.

Therefore, the coordinates of point A is $(2, 9)$.

9. $B(0, 5)$

Panjang AB = Panjang CD

The length of AB = The length of CD

$$\sqrt{(-4-0)^2 + (1-5)^2} = \sqrt{(n-7)^2 + (1-5)^2}$$

$$32 = n^2 - 14n + 49 + 16$$

$$n^2 - 14n + 33 = 0$$

$$(n-11)(n-3) = 0$$

$$n = 11 \text{ atau / or } n = 3$$

Maka, $n = 3$.

Therefore, $n = 3$.

10. Katakan koordinat titik $P = (5, y)$

Let coordinates of point $P = (5, y)$

Panjang PR = Panjang QR

The length of PR = The length of QR

$$\sqrt{(3-5)^2 + (8-y)^2} = \sqrt{(3-5)^2 + (8-2)^2}$$

$$4 + 64 - 16y + y^2 = 40$$

$$y^2 - 16y + 28 = 0$$

$$(y-14)(y-2) = 0$$

$$y = 14 \text{ atau / or } y = 2$$

Maka, koordinat titik P ialah $(5, 14)$.

Therefore, the coordinates of point P is $(5, 14)$.



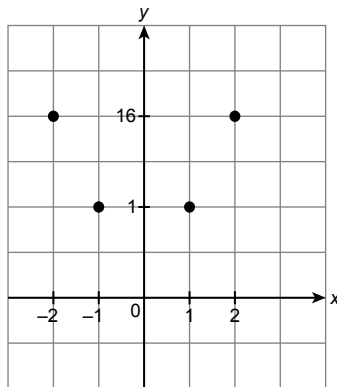
Jawapan Praktis Ekstra Sumatif

Bab 8

1. (a) Satu kepada banyak
One-to-many
(b) Kerana objek dalam domain mempunyai lebih daripada satu imej.
Because the objects in the domain have more than one image.

2. (a) 2, 3, 4, 5, 6
(b) 10, 12
(c) {10, 12}
(d) {2, 3, 4, 5, 6}

3. (a) 16
(b) 2, -2
(c)



4. (a) X
(b) ✓
(c) ✓
(d) X

5. Daripada graf,
From the graph,
 $a = 10$
 $b = 5$
 $b - a = 5 - 10$
 $= -5$

6. Gantikan $y = 4$ dan $x = m$ ke dalam $y = -x^3 + 68$.
Substitute $y = 4$ and $x = m$ into $y = -x^3 + 68$.
 $4 = -m^3 + 68$
 $m^3 = 64$
 $m = \sqrt[3]{64}$
 $m = 4$

7. Gantikan $x = 4$ dan $y = a$ ke dalam $y = \frac{100}{x} + 60$
Substitute $x = 4$ and $y = a$ into $y = \frac{100}{x} + 60$
 $a = \frac{100}{4} + 60$
 $= 85$

Gantikan $x = b$ dan $y = 40$ ke dalam $y = \frac{100}{x} + 60$
Substitute $x = b$ and $y = 40$ into $y = \frac{100}{x} + 60$

$$40 = \frac{100}{b} + 60$$

$$40b = 100 + 60b$$

$$20b = -100$$

$$b = -5$$

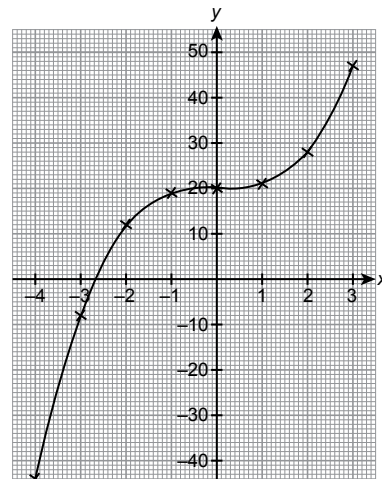
$$a + b = 85 + (-5)$$

$$= 80$$

8. (a) Gantikan $x = -2$ dan $y = q$ ke dalam $y = x^3 + 20$
Substitute $x = -2$ and $y = q$ into $y = x^3 + 20$
 $q = (-2)^3 + 20$
 $= 12$

Gantikan $x = 0$ dan $y = p$ ke dalam $y = x^3 + 20$
Substitute $x = 0$ and $y = p$ into $y = x^3 + 20$
 $p = (0)^3 + 20$
 $= 20$

(b)



9. (a) Keuntungan, K
Profit, K
(b) Bilangan burger yang dijual, x
The number of burgers sold, x
(c) $K = 3.50x - 1.30x$
 $K = 2.2x$

10. Jarak / Distance = 6.0 m
Waktu / Time = 10:30



1. (a) ✓
(b) ✗
(c) ✗
(d) ✓

2. Masa / Time = $\frac{1.5 \times 1\,000}{20}$
= 75 minit / minutes

3. Objek A / Object A
 $16 = \frac{\text{Jarak / Distance}}{x}$
Jarak / Distance = $16x$
Objek B / Object B
 $48 = \frac{\text{Jarak / Distance}}{y}$
Jarak / Distance = $48y$
 $16x = 48y$
 $x = 3y$
 $\frac{x}{y} = \frac{3y}{y}$
 $\frac{x}{y} = 3$

4. Laju purata / Average speed
 $= \frac{114 + 120}{2 + 2.5}$
= 52 km/j (km/h)
 $52 \text{ km/j (km/h)} = \frac{(52 \times 1\,000) \text{ m}}{(1 \times 3\,600) \text{ s}}$
= $14\frac{4}{9} \text{ m/s}$

5. Jumlah Jarak yang dilalui / Total distance travelled
 $80 = \frac{\text{Jarak / Distance}}{2.5}$
Jarak / Distance = 80×2.5
= 200 km
Laju purata perjalanan pulang
Average speed for the return journey
 $= \frac{200}{2.5 - \frac{30}{60}}$
= 100 km/j (km/h)

6. (a) 23 m/s
(b) 25 m/s
(c) 10 s
(d) Pecutan / Acceleration
 $= \frac{25 - 23}{10}$
= 0.2 m/s²

7. Nyahpecutan / Deceleration
 $= \frac{50}{2}$
= 25 cm/s per saat (cm/s per second)
Kelajuan objek itu berkurang sebanyak 25 cm/s setiap saat.
The speed of the object decreases 25 cm/s for every second.

8. Pecutan / Acceleration
 $= \frac{120 - 80}{30 \div 60}$
= 80 km/j² (km/h²)

9. Pecutan / Acceleration
 $= \frac{120 - 60}{20 \times 60}$
= 0.05 km/j per saat (km/h per second)

10. $0.3 \text{ m/s}^2 = \frac{(0.3 \div 1\,000) \text{ km}}{(1 \div 3\,600) \text{ j (h)}}$
= 1.08 km/j² (km/h²)
80 – Laju awal
 $1.08 = \frac{\text{Initial speed}}{1 \div 60}$
80 – Laju awal
 $1.08 = \frac{\text{Initial speed}}{0.017}$
80 – Laju awal / Initial speed = 0.01836
Laju awal / Initial speed = 78.92 km/j (km/h)



Jawapan Praktis Ekstra Sumatif Bab 10

1. Garisan PQ mempunyai kecondongan yang lebih tinggi berbanding dengan garisan ST . Garisan PQ lebih curam berbanding dengan garisan ST .
Line PQ has higher inclination than line ST . Line PQ is steeper than line ST .

Kesimpulan: Semakin besar nilai sudut, semakin tinggi nilai kecerunan.

Conclusion: The greater the value of angle, the higher the value of gradient.

2. (a) Tak tertakrif / Undefined
 (b) Sifar / Zero

3. Kecerunan / Gradient

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

$$= -\frac{-6}{4}$$

$$= \frac{3}{2}$$

4. Kecerunan / Gradient

$$-\frac{OR}{OQ} = -\frac{4}{3}$$

$$\frac{2(4)}{OQ} = \frac{4}{3}$$

$$24 = 4OQ$$

$$OQ = 6$$

Maka, koordinat Q ialah $(6, 0)$.

Therefore, the coordinates of Q is $(6, 0)$.

5. $OM = 8$

$$ON = \sqrt{10^2 - 8^2}$$

$$= \sqrt{36}$$

$$= 6$$

Kecerunan / Gradient

$$= -\frac{OM}{ON}$$

$$= -\frac{8}{6}$$

$$= -\frac{4}{3}$$

6. $-\frac{-16}{\text{Pintasan-x} / x\text{-intercept}} = \frac{1}{2}$
 $\text{Pintasan-x} / x\text{-intercept} = 32$

7. (a) Pintasan-x / x -intercept
 $= 2 + 2 = 4$

(b) Kecerunan CD / Gradient of CD

$$= \frac{6-0}{-6-4}$$

$$= -\frac{3}{5}$$

Katakan pintasan-y bagi $CD = y$

Let the y -intercept of $CD = y$

$$-\frac{y}{4} = -\frac{3}{5}$$

$$5y = 12$$

$$y = 2.4$$

8. $-\frac{p}{5} = 3$

$$-p = 15$$

$$p = -15$$

9. Kecerunan / Gradient

$$= \frac{8-2}{7-4}$$

$$= 2$$

Jarak / Distance

$$= \sqrt{(7-4)^2 + (8-2)^2}$$

$$= \sqrt{9+36}$$

$$= \sqrt{45}$$

$$= 6.708$$

10. Katakan / Let $H(2, y)$

Kecerunan / Gradient

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

$$\frac{y+1}{-2} = -2$$

$$y+1 = 4$$

$$y = 3$$

Maka / Therefore, $H(2, 3)$



1. T

2. (a) Objek P bergerak 3 unit ke kiri dan 2 unit ke atas.

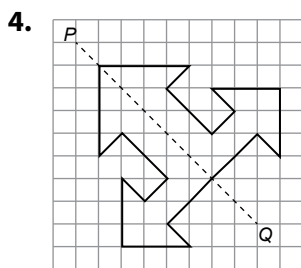
Object P moves 3 units to the left and 2 units upwards.

(b) $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$

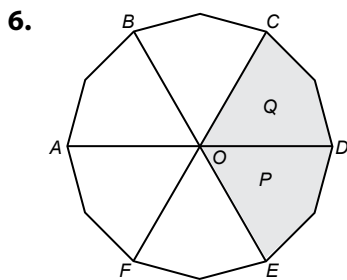
3. Vektor translasi

Translation vector

$$\begin{pmatrix} 4 - 3 \\ 7 - 2 \end{pmatrix} = \begin{pmatrix} 1 \\ 5 \end{pmatrix}$$



5. C



7. $x + 35^\circ + 120^\circ = 180^\circ$

$$x + 155^\circ = 180^\circ$$

$$x = 25^\circ$$

8. $\angle CAB = \angle DEA = 40^\circ$

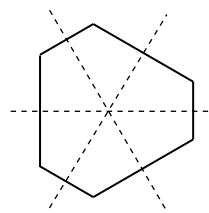
$$\angle CBA = \angle DAE = 180^\circ - 20^\circ - 40^\circ = 120^\circ$$

$$\angle CAD = 180^\circ - 40^\circ - 120^\circ = 20^\circ$$

9. (a) ✓

(b) ✓

10.



Peringkat simetri putaran: 3

Order of rotational symmetry: 3



1. Mod / Mode = 44

Susunan data mengikut tertib menaik

Data arrangement in ascending order

43, 44, 44, 44, 52, 56, 56, 58, 60, 63

$$\text{Median} = \frac{52 + 56}{2} = 54$$

$$\text{Min / Mean} = \frac{44 + 52 + 43 + 44 + 56 + 44 + 56 + 58 + 60 + 63}{10} = 52$$

2. Min / Mean

$$= \frac{(40 \times 4) + (42 \times 4) + (44 \times 5) + (46 \times 3)}{4 + 4 + 5 + 3}$$

$$= \frac{686}{16}$$

$$= 42.88$$

3. Median

$$= \frac{1}{2} \left[\text{data ke} - \left(\frac{42}{2} \right) + \text{data ke} - \left(\frac{42}{2} + 1 \right) \right]$$

$$= \frac{1}{2} \left[\left(\frac{42}{2} \right)^{\text{th}} \text{ data} + \left(\frac{42}{2} + 1 \right)^{\text{th}} \text{ data} \right]$$

$$= \frac{1}{2} [\text{data ke} - 21 + \text{data ke} - 22]$$

$$= \frac{1}{2} [21^{\text{th}} \text{ data} + 22^{\text{th}} \text{ data}]$$

$$= \frac{1}{2} (168 + 169)$$

$$= \frac{1}{2} (337)$$

$$= 168.5 \text{ cm}$$

4.

Umur Age	Titik tengah, x Midpoint, x	Kekerapan, f Frequency, f	fx
11 – 15	$\frac{11 + 15}{2} = 13$	30	390
16 – 20	$\frac{16 + 20}{2} = 18$	45	810
21 – 25	$\frac{21 + 25}{2} = 23$	60	1 380
26 – 30	$\frac{26 + 30}{2} = 28$	40	1 120
31 – 35	$\frac{31 + 35}{2} = 33$	35	1 155
		$\Sigma f = 210$	$\Sigma fx = 4 855$

$$\begin{aligned} \text{Min / Mean} &= \frac{\Sigma fx}{\Sigma f} \\ &= \frac{4 855}{210} \\ &= 23.12 \end{aligned}$$

5. (a) Median

(b) Min / Mean

(c) Mod / Mode

6. Katakan jumlah jisim durian yang tinggal ialah x.

Let the total mass of the remaining durians is x.

$$\frac{4(64) + x}{40} = 80$$

$$256 + x = 3 200$$

$$x = 2 944$$

Min / Mean

$$= \frac{2 944}{40 - 4}$$

$$= 81.78$$

$$7. \frac{5 + 10 + 7 + 11 + 4 + p}{6} = 9$$

$$37 + p = 54$$

$$p = 17$$

8. (a) Susunan data mengikut tertib menaik

Data arrangement in ascending order

RM32, RM35, RM38, RM39, RM45, RM47

$$\text{Median} = \frac{38 + 39}{2}$$

$$= \text{RM}38.5$$

(b) Tidak, kerana harga baju tersebut selepas potongan adalah lebih kecil daripada nilai median (RM16 < RM38.50).

No, because the price of the shirt after discount is smaller than the value of the median (RM16 < RM38.50).

9. (a)

Bilangan buku Number of books	Kekerapan Frequency	Titik tengah Midpoint
5 – 9	9	7
10 – 14	11	12
15 – 19	x	$\frac{15 + 19}{2} = 17$
20 – 24	2	$\frac{20 + 24}{2} = 22$

$$\begin{aligned}
 & \frac{(9 \times 7) + (11 \times 12) + (x \times 17) + (2 \times 22)}{9 + 11 + x + 2} = 12.5 \\
 & \frac{63 + 132 + 17x + 44}{22 + x} = 12.5 \\
 & 239 + 17x = 275 + 12.5x \\
 & 4.5x = 36 \\
 & x = 8
 \end{aligned}$$

10. (a) Rabu / *Wednesday*
 (b) Min / *Mean*

$$= \frac{30 + 60 + 80 + 70 + 30}{5}$$

$$= 54$$



Jawapan Praktis Ekstra Sumatif Bab 13

1. $A = \{29, 31, 37, 41, 43, 47\}$

$$P(A) = \frac{6}{23}$$

2. (a) $M = \{1, 2\}$

(b) $N = \{1, 2, 3, 6\}$

3. $P(\text{merah} / \text{red}) = \frac{2}{2 + 3 + 1}$

$$= \frac{2}{6}$$

$$= \frac{1}{3}$$

4. (a) ✓

(b) ✓

(c) ✗

5. (a) $P(\text{Bukan berlabel 2} / \text{Not labelled with 2})$

$$= 1 - \frac{5}{15}$$

$$= \frac{2}{3}$$

(b) $P(\text{Bukan nombor perdana} / \text{Not a prime number})$

$$= 1 - \frac{9}{15}$$

$$= \frac{2}{5}$$

6. (a) $P(\text{guli hijau})$
 $P(\text{Green marble})$

$$= 1 - \frac{4}{5}$$

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

(b) Bilangan asal guli kuning
The original number of yellow marbles

$$\frac{x}{80} = \frac{4}{5}$$

$$5x = 320$$

$$x = 64$$

Bilangan guli kuning yang perlu ditambah

Number of yellow marbles that need to be added

$$\frac{64 + y}{80 + y} = \frac{19}{23}$$

$$1\,472 + 23y = 1\,520 + 19y$$

$$4y = 48$$

$$y = 12$$

7. $\frac{6}{6 + y} = \frac{2}{3}$

$$18 = 12 + 2y$$

$$2y = 6$$

$$y = 3$$

8. Katakan bilangan bola merah = x

Let the number of red ball = x

$$\frac{10}{10 + x} = \frac{2}{5}$$

$$50 = 20 + 2x$$

$$2x = 30$$

$$x = 15$$

9. $P(\text{Murid itu dari kelas 2 intelek})$

P(The student is from 2 intelek)

$$= \frac{38}{35 + 39 + 38 + 28}$$

$$= \frac{38}{140}$$

$$= \frac{19}{70}$$

10. $P(\text{Kelapa muda})$

P(Young coconut)

$$= \frac{4}{21 + 3}$$

$$= \frac{4}{24}$$

$$= \frac{1}{6}$$