



Bahagian A

1. Jawapan / Answer: **B**

$$2. \quad \begin{array}{ccccccc} x, & 0.1, & y, & 10, & 100 \\ \times 10 & \times 10 & \times 10 & \times 10 & \times 10 \end{array}$$

$$x \times 10 = 0.1$$

$$x = 0.01$$

$$y = 0.1 \times 10$$

$$= 1$$

$$x + y = 0.01 + 1$$

$$= 1.01$$

Jawapan / Answer: **A**

$$3. \quad \begin{aligned} (p+q)(p-q) - q^2 \\ = p^2 - pq + pq - q^2 - q^2 \\ = p^2 - 2q^2 \end{aligned}$$

Jawapan / Answer: **B**

$$4. \quad 12m = \frac{4-n}{m}$$

$$12m^2 = 4 - n$$

$$12\left(\frac{1}{2}\right)^2 = 4 - n$$

$$3 = 4 - n$$

$$n = 1$$

Jawapan / Answer: **C**

5. Bilangan sisi, n / Number of sides, n

$$(n-2) \times 180^\circ = 900^\circ$$

$$180n - 360^\circ = 900^\circ$$

$$180n = 1260^\circ$$

$$n = 7$$

Jawapan / Answer: **C**

$$6. \quad p + 115^\circ + (180^\circ - 140^\circ) + 60^\circ + q = 360^\circ$$

$$p + 215^\circ + q = 360^\circ$$

$$p + q = 145^\circ$$

Jawapan / Answer: **B**

7. Panjang reben yang diperlukan untuk suatu piala

The length of ribbon needed for one cup

$$= \pi d$$

$$= \frac{22}{7} \times 49$$

$$= 154 \text{ cm}$$

Panjang reben yang diperlukan untuk 3 piala

The length of ribbon needed for 3 cups

$$= 154 \times 3$$

$$= 462 \text{ cm}$$

Jawapan / Answer: **D**

8. Luas segi empat sama

Area of square

$$= 14 \times 14$$

$$= 196 \text{ cm}^2$$

Luas semibulatan

Area of semicircles

$$= 2\left(\frac{1}{2}\pi r^2\right)$$

$$= 2\left[\frac{1}{2} \times \frac{22}{7} \times \left(\frac{14}{2}\right)^2\right]$$

$$= 154 \text{ cm}^2$$

Luas kawasan berlorek

Area of the shaded region

$$= 196 - 154$$

$$= 42 \text{ cm}^2$$

Jawapan / Answer: **D**

9. Jawapan / Answer: **D**

10. Isi padu air dalam bekas P

Volume of water in container P

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

$$= \frac{1}{3} \times 600 \times 18$$

$$= 3600 \text{ cm}^3$$

Tinggi air dalam bekas Q, t

Height of the water in container Q, t

$$3600 = 8 \times 9 \times t$$

$$72t = 3600$$

$$t = 50 \text{ cm}$$

Jawapan / Answer: **B**

11. Jarak RS / Distance of RS

$$= \sqrt{(6-1)^2 + [8-(-4)]^2}$$

$$= 13 \text{ unit / units}$$

Jawapan / Answer: **D**

12. Katakan koordinat titik L = (x, y)

Let coordinates of point L

$$(3, 4) = \left(\frac{7+x}{2}, \frac{2+y}{2}\right)$$

$$\frac{7+x}{2} = 3$$

$$7+x=6$$

$$x=-1$$

$$\frac{2+y}{2} = 4$$

$$2+y=8$$

$$y=6$$

$$\therefore L(-1, 6)$$

Jawapan / Answer: **A**

13. Jawapan / Answer: **C**

$$\begin{aligned}
 14. \quad 200 \text{ km/h} &= \frac{(200 \times 1\,000) \text{ m}}{(1 \times 60 \times 60) \text{ s}} \\
 &= \frac{200\,000 \text{ m}}{3\,600 \text{ s}} \\
 &= 55.6 \text{ m/s}
 \end{aligned}$$

Jawapan / Answer: **B**

15. Nyahpecutan / Deceleration

$$\begin{aligned}
 &= \frac{5 \text{ m/s} - 15 \text{ m/s}}{10 \text{ s}} \\
 &= 1 \text{ m/s}
 \end{aligned}$$

Jawapan / Answer: **A**

16. Jawapan / Answer: **C**

17. Objek *P* bergerak 2 unit ke kanan dan 2 unit ke bawah.

Object P moves 2 units to the right and 2 units upwards.

$$\text{Vektor translasi / Translation vector} = \begin{pmatrix} 2 \\ -2 \end{pmatrix}$$

Jawapan / Answer: **C**

18. Jawapan / Answer: **A**

19. Jumlah murid / Total number of students

$$\begin{aligned}
 &= 2 + 5 + 4 + 2 + 1 \\
 &= 14
 \end{aligned}$$

Median / Median

$$\begin{aligned}
 &= \frac{1}{2} \left[\text{data ke} - \left(\frac{14}{2} \right) + \text{data ke} - \left(\frac{14}{2} + 1 \right) \right] \\
 &= \frac{1}{2} \left[\left(\frac{14}{2} \right)^{\text{th}} \text{ data} + \left(\frac{14}{2} + 1 \right)^{\text{th}} \text{ data} \right] \\
 &= \frac{1}{2} (\text{data ke} - 7 + \text{data ke} - 8) \\
 &= \frac{1}{2} (7^{\text{th}} \text{ data} + 8^{\text{th}} \text{ data}) \\
 &= \frac{1}{2} (56 + 57) \\
 &= \frac{1}{2} (113) \\
 &= 56.5
 \end{aligned}$$

Jawapan / Answer: **B**

20. *P*(mengambil guli kuning)

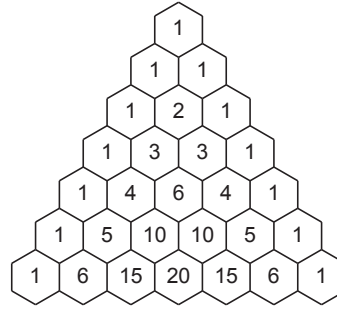
P(Taking yellow marble)

$$\begin{aligned}
 &= \frac{4}{7 + 4 + 5} \\
 &= \frac{4}{16} \\
 &= \frac{1}{4}
 \end{aligned}$$

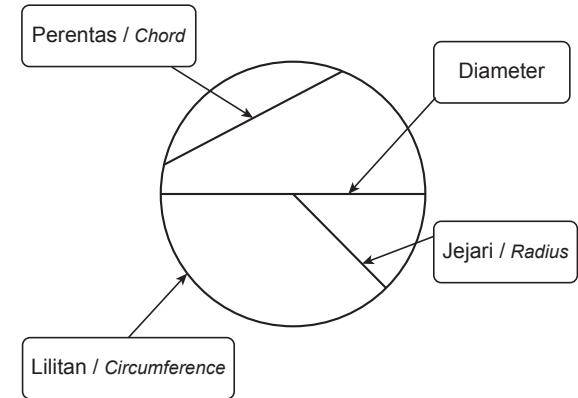
Jawapan / Answer: **C**

Bahagian B

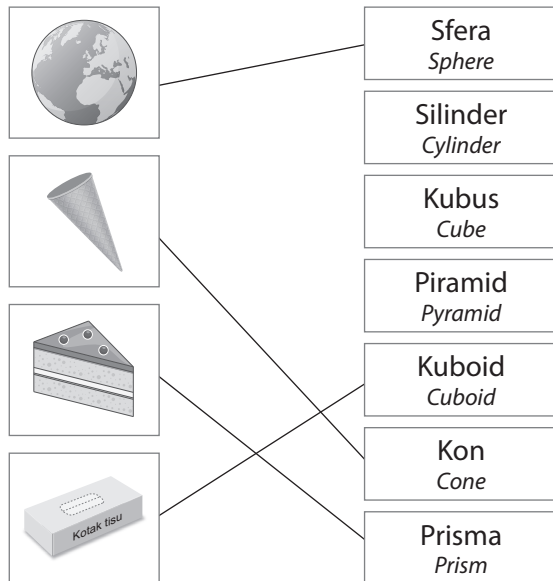
21.



22.

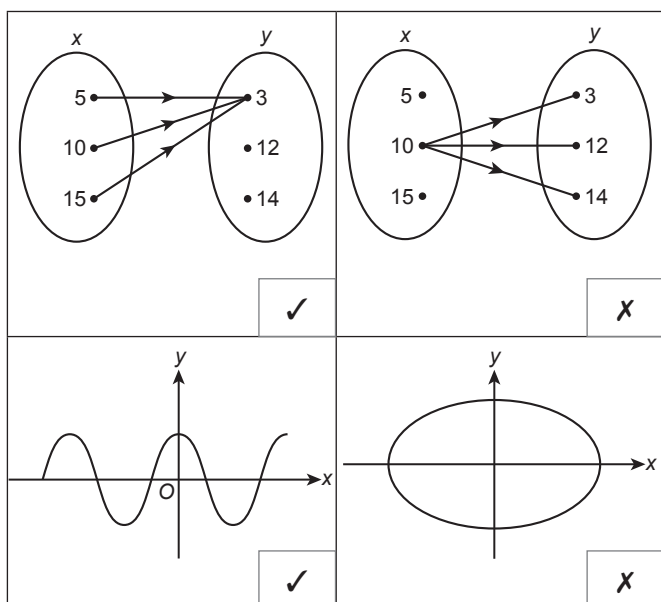


23.

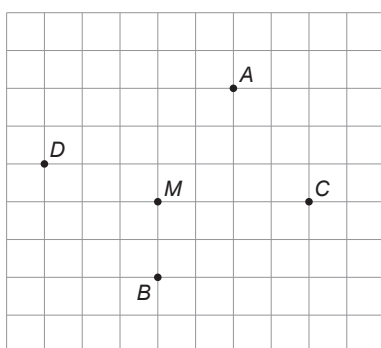




24.



25.



Bahagian C

26. (a) (i) $6p^3 - 14pq + 2p$
 $= 2p(3p^2 - 7q + 1)$

(ii)
$$\begin{array}{r|l} p & -1 & -p \\ \times & p & -4 & -4p & (+) \\ \hline & p^2 & +4 & -5p \end{array}$$

$= (p - 1)(p - 4)$

(b) (i) $p = \left(\frac{p + 2q}{5} \right) - 2$

$p + 2 = \frac{p + 2q}{5}$

$5p + 10 = p + 2q$

$2q = 5p + 10 - p$

$q = \frac{4p + 10}{2}$

(ii) $q = \frac{4p + 10}{2}$
 $= \frac{4(-40) + 10}{2}$
 $= -75$

(c) (i) t : Jumlah kos setiap hadiah

Total cost of each gift

x : Harga sekotak pen

The price of a box of pens

y : Harga sekotak pensel

The price of a box of pencils

z : Harga sehelai kertas pembalut

The price of a piece of wrapping paper

$t = \frac{4x + 6y}{5} + z$

(ii) $x = 15, y = 5, z = 1$

$t = \frac{4x + 6y}{5} + z$
 $= \frac{4(15) + 6(5)}{5} + 1$
 $= \text{RM}19$

27. (a) (i) Jumlah sudut pedalaman

Sum of interior angles

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

$= 1080^\circ$

(ii) Nilai x / Value of x

$= 180^\circ - \frac{1080^\circ}{8} = 45^\circ$

Nilai y / Value of y

$y = 120^\circ + 140^\circ + 45^\circ$

$= 305^\circ$

$x + y = 45^\circ + 305^\circ$

$= 350^\circ$

(b) (i) Luas / Area

$= \frac{(360^\circ - 45^\circ)}{360^\circ} \times \frac{22}{7} \times 30^2$

$= 2475 \text{ m}^2$

(ii) Perimeter kawasan berlorek

Perimeter of the shaded region

$= \left(\frac{(360^\circ - 45^\circ)}{360^\circ} \times 2 \times \frac{22}{7} \times 30 \right) + (30 \times 2)$

$= 165 + 60$

$= 225 \text{ m}$

Jumlah kos / Total cost

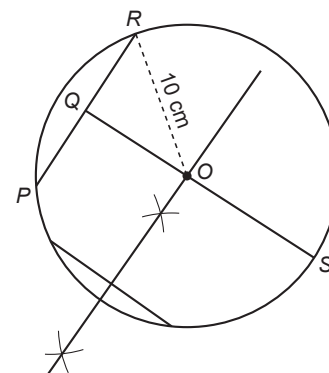
$= 225 \times \text{RM}4.50$

$= \text{RM}1012.50$

Maka, bajet Puan Elliah tidak mencukupi.

Thus, Puan Elliah's budget is not sufficient.

28. (a) (i)



(ii) Panjang QO / Length of QO

$$= \sqrt{10^2 - \left(\frac{12}{2}\right)^2}$$

$$= 8 \text{ cm}$$

Panjang QS / Length of QS

$$= 8 \text{ cm} + 10 \text{ cm}$$

$$= 18 \text{ cm}$$

(b) (i) Isi padu / Volume

$$= \frac{1}{2} \times (4 + 6) \times 5 \times 12$$

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

(ii) Isi padu kon / Volume of cone

$$\frac{1}{3} \times (\text{Luas tapak} / \text{Base area}) \times 37.5 = 300$$

$$\begin{aligned} \text{Luas tapak} / \text{Base area} &= \frac{300 \times 3}{37.5} \\ &= 24 \text{ cm}^2 \end{aligned}$$

(c) (i) Isi padu silinder / Volume of cylinder

$$\frac{22}{7} \times 7^2 \times t = 3080$$

$$154t = 3080$$

$$t = \frac{3080}{154}$$

$$= 20 \text{ cm}$$

Maka / Hence

$$t = 20 \text{ cm}$$

29. (a) (i) Mod / Mode = 4

Susunan data mengikut tertib menaik

Data arrangement in ascending order

3, 4, 4, 4, 5, 5, 6, 7, 16

Median = 5

Min / Mean

$$= \frac{7 + 3 + 4 + 5 + 6 + 4 + 5 + 16 + 4}{9}$$

$$= \frac{54}{9} = 6$$

(ii) Median. Kerana terdapat nilai ekstrem iaitu 16.

Median. Because there is an extreme value which is 16.

(iii) Nilai mod dan median juga bertambah 1.

The value of mode and median also increase by 1.

(b) (i) Ruang sampel / Sample space

$$= \{(1, A), (1, E), (1, K), (3, A), (3, E), (3, K), (4, A), (4, E), (4, K)\}$$

$$(ii) P(A) = \frac{n(A)}{n(S)}$$

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

(c) Kebarangkalian anak panah tidak terkena pada kawasan berlorek

Probability that the arrow does not hit the shaded area

$$= 1 - \frac{1}{8}$$

$$= \frac{7}{8}$$

30. (a) (i) 1 jam 15 minit / 1 hour 15 minutes

$$= (1 \times 60) + 15$$

$$= 75 \text{ minit} / \text{minutes}$$

Laju / Speed

$$= \frac{90}{75}$$

$$= 1.2 \text{ km per minit} / \text{km per minute}$$

$$(ii) = \frac{1.2 \times 1000}{1 \times 60}$$

$$= 20 \text{ meter per saat} / \text{metre per second}$$

(iii) masa yang diperlukan / Time needed

$$= \frac{60 \text{ km}}{1.2 \text{ km} / \text{min}}$$

$$= 50 \text{ minit} / \text{minutes}$$

(b) (i) Kecerunan / Gradient

$$= \frac{8 - 12}{0 - (-1)}$$

$$= -4$$

(ii) Kecerunan / Gradient

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

$$-4 = - \frac{8}{x}$$

$$\text{Pintasan-}x / x\text{-intercept} = 2$$

31. (a) (i) Jarak / Distance

$$= \sqrt{(16 - (-8))^2 + (12 - 2)^2}$$

$$= \sqrt{24^2 + 10^2}$$

$$= \sqrt{676}$$

$$= 26 \text{ unit} / \text{units}$$

$$(ii) M = \left(\frac{2 + 12}{2}, \frac{-8 + 16}{2} \right)$$

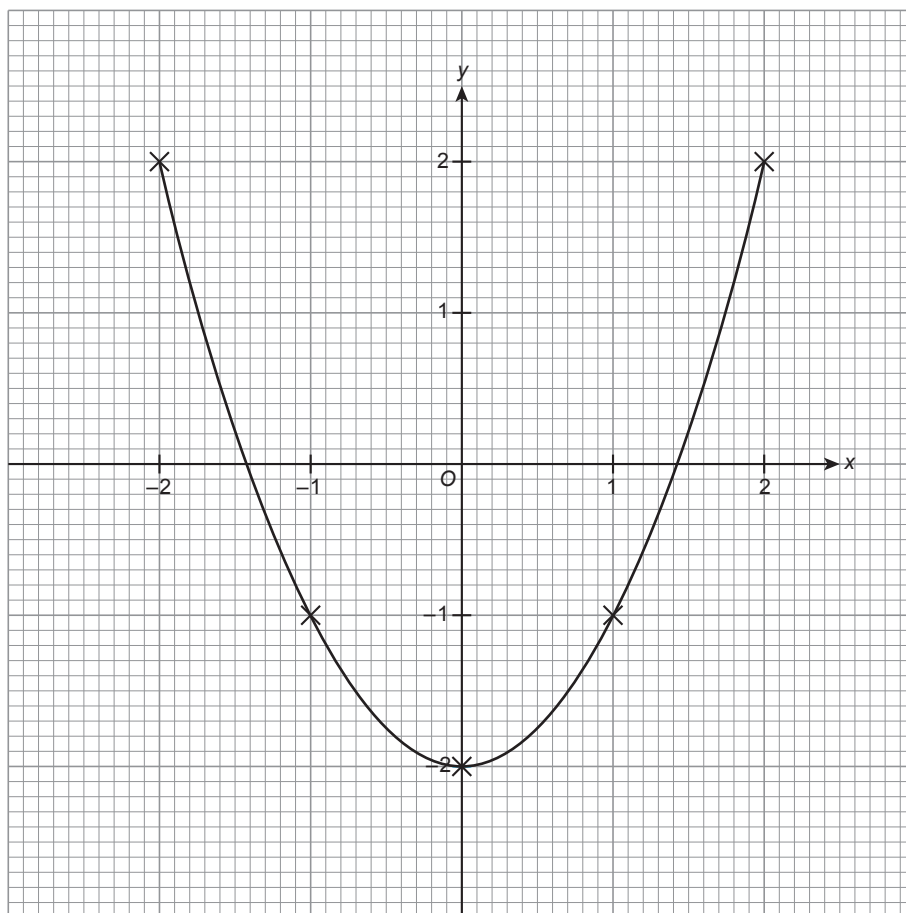
$$= (7, 4)$$

(b) (i)

x	-2	-1	0	1	2
y	2	-1	-2	-1	2



(ii)



- (c) Kebarangkalian mendapat sebiji guli hitam
The probability of getting a black marble

$$\begin{aligned}\frac{21}{21 + 25 + w} &= \frac{1}{7} \\ 46 + w &= 147 \\ w &= 147 - 46 \\ &= 101\end{aligned}$$

Maka / Hence
 $w = 101$