

JAWAPAN

Kertas Model PT3

Bahagian A

1. $64^{\frac{3}{4}} = (2^6)^{\frac{3}{4}}$
 $= 2^{\frac{9}{2}}$

$m = 2, n = 9$

Jawapan / Answer: **B**

2. $(q^5)^2 = q^{5 \times 2}$
 $= q^{10}$

Jawapan / Answer: **D**

3. $74\,008 = 7.4008 \times 10\,000$
 $= 7.4008 \times 10^4$

Jawapan / Answer: **B**

4. $K - 2J = -14 - 2(27)$
 $= -14 - 54$
 $= 68$

Jawapan / Answer: **A**

5. Nilai eksa ialah 1×10^{18} .
The value of exa is 1×10^{18} .

Jawapan / Answer: **D**

6. Saham tidak sesuai sekiranya Jebat tidak berminat dalam pelaburan berisiko tinggi.
Shares are not suitable if Jebat is not interested in high risk investment.

Jawapan / Answer: **D**

7. $1\,250 + 1\,250 \times r \times 1 = 1\,287.50$
 $1\,250r = 37.5$
 $r = 0.03$
 $= 3\%$

Jawapan / Answer: **B**

8. Jarak sebenar/ *Actual distance* = 92 km

Jarak di atas peta
 $\frac{\text{Distance on map}}{92\text{ km}} = \frac{1\text{ cm}}{10\text{ km}}$

Jarak di atas peta/ *Distance on map*
 $= \frac{1}{10} \times 92$
 $= 9.2\text{ cm}$

Jawapan / Answer: **C**

9. $1\text{ cm} : 0.01\text{ m}$
 $= 1\text{ cm} : 1\text{ cm}$
 $= 1 : 1$

Jawapan / Answer: **A**

10. $PR = \sqrt{8^2 + 15^2}$
 > 17

Jawapan / Answer: **D**

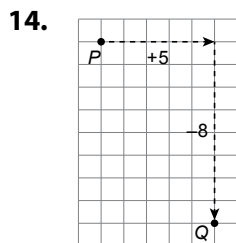
11. $\tan \theta - \sin \theta = \frac{8}{15} - \frac{8}{17}$
 $= \frac{136}{255} - \frac{120}{255}$
 $= \frac{16}{255}$

Jawapan / Answer: **B**

12. $105^\circ + 5x = 180^\circ$
 $5x = 75^\circ$
 $x = 15^\circ$
 $72^\circ + 2y = 180^\circ$
 $2y = 108^\circ$
 $y = 54^\circ$
 $x + y = 15^\circ + 54^\circ$
 $= 69^\circ$

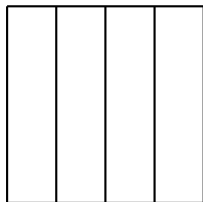
Jawapan / Answer: **C**

13. $(n - 2) \times 180^\circ = 1\,260^\circ$
 $n - 2 = 7$
 $n = 9$
 $\therefore$ Nonagon/ Nonagon
 Jawapan / Answer: **D**



Jawapan / Answer: **C**

15. Pelan pepejal:
 Plan of the solid:



Jawapan / Answer: **C**

16. Locus bagi titik J adalah berjarak sama dari dua garis yang bersilang.
 Locus of point J is equidistant from two intersecting lines.

Jawapan / Answer: **C**

17. Koordinat H ialah $(0, 3)$. Maka, **A** tidak benar.
 Coordinates of H is $(0, 3)$. Hence, **A** is not true.

Jawapan / Answer: **A**

18. $2x - 3y = 6$
 $3y = 2x - 6$
 $y = \frac{2}{3}x - 2$
 Kecerunan/ Gradient = $\frac{2}{3}$
 Jawapan / Answer: **B**

19.

Garis Line	Kecerunan Gradient
PQ	$\frac{10 - 2}{-3 + 7} = 2$
RS	$\frac{5 - 1}{-2 + 5} = \frac{4}{3}$
TU	$\frac{14 - 4}{5 - 1} = 2.5$ (Paling curam / steepest)
VW	$\frac{8 - 3}{8 - 4} = 1.25$

Jawapan / Answer: **C**

20. **B** adalah benar. Locus bagi titik B sentiasa berjarak 4 unit dari garis JM .
B is true. Locus of point B is always 4 units from line JM .

Jawapan / Answer: **B**

Bahagian B

21. (a) $X = 59, Y = 52$
 (b) Faktor bagi 28/ Factor of 28:
 1, 2, 4, 7, 14, 28
 $P = 2, Q = 14$
22. (a) $0.00025 - 1.3 \times 10^{-4}$
 $= 2.5 \times 10^{-4} - 1.3 \times 10^{-4}$
 $= (2.5 - 1.3) \times 10^{-4}$
 $= 1.2 \times 10^{-4}$
 (b) $\sqrt[3]{2000} = 12.60$
 Dua kuasa tiga sempurna terkecil selepas 2 000
 Two smallest perfect cubes after 2 000
 $= 13^3, 14^3$
 $= 2\,197, 2\,744$

23. (a)

Hipotenus Hypotenuse	PR
Sisi yang bertentangan dengan $\angle QPR$. The side that is opposite to $\angle QPR$.	QR

- (b) a : Sektor minor
 Minor sector
 b : Jejari
 Radius

24. (a)

Nama poligon Name of polygon	Bilangan bucu Number of vertices	Bilangan pepenjuru Number of diagonals
Heptagon	7	14
Heksagon Hexagon	6	9

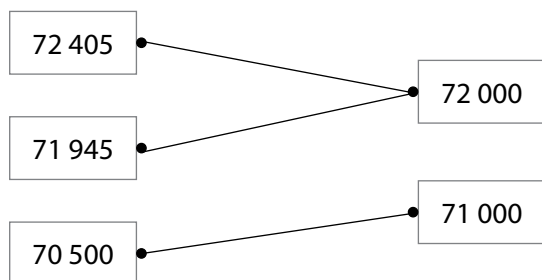
(b) (i) Sudut p dan q ialah sudut selang-seli.

Angles p and q are alternate angles.

(ii) Sudut s dan t ialah sudut bertentangan.

Angles s and t are opposite angles.

25. (a)



(b) (ii) (✓)

Bahagian C

26. (a) (i) $(a^2)^{-3} = a^2 - (-3)$
 $= a^{-6}$

(ii) $p^2 \div p^{-3} = p^{2 - (-3)}$
 $= p^5$

(iii) $3u^2 \times (2uv^2)^2$
 $= 3u^2 \times 2^2 u^2 v^4$
 $= 3 \times 2^2 \times u^2 \times u^2 \times v^4$
 $= 12u^4 v^4$

(b) Masa / Time

$= 1 \text{ jam } 40 \text{ minit } (1 \text{ hour } 40 \text{ minutes})$

$= 1 \frac{40}{60} \text{ j } (1 \frac{40}{60} \text{ h})$

$= 1 \frac{2}{3} \text{ j } (1 \frac{2}{3} \text{ h})$

Laju / Speed

$= \frac{160}{1 \frac{2}{3}}$

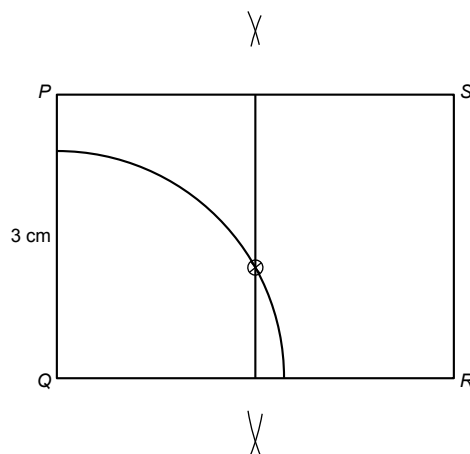
$= 96 \text{ km/j } (96 \text{ km/h})$

Pecutan / Acceleration

$= \frac{105 - 96}{0.5}$

$= 18 \text{ km/j}^2 (18 \text{ km/h}^2)$

(c)



27. (a) $x^2 - 8xy + 16y^2$

$$\begin{array}{r|l} x & -4y \\ \hline (x) \updownarrow & (x) \updownarrow \\ x & -4y \end{array} \quad \begin{array}{l} -4xy \\ -4xy \end{array}$$

$x^2 - 8xy + 16y^2 = (x - 4y)(x - 4y)$

Panjang kertas / Length of paper (cm)
 $= x - 4y$

(b) (i) $3x + 2.5y$

(ii) $3(2) + 2.5(6) + 2(5) = 31$

Tidak boleh. Ini kerana jumlah pembelian melebihi wangnya.

No. Because the total purchase is more than his money.

(c) (i) 30, 32, 32, 33, 33, 33, 33, 34, 34, 34, 36, 36, 36, 37, 37, 37, 37, 38, 38, 38, 40, 42

Mod / Mode = 37,
median = 36

37 mempunyai kekerapan tertinggi, iaitu 5.
37 has the highest frequency, which is 5.

(ii) Saiz 37. Sebab saiz kasut ini mempunyai permintaan yang paling tinggi.
Size 37. Because this size has the highest demand.

28. (a)

(i)	$\tan \theta = \frac{4}{3}$	$\theta = \angle PRQ$
(ii)	$\sin \alpha = \frac{12}{13}$	$\alpha = \angle RPS$
(iii)	$\cos \beta = \frac{4}{5}$	$\beta = \angle QPR$

(b) (i) $4.5x + 3(2y) = 18$
 $4.5x + 6y = 18$

(ii) $4.5x + 6(1.5) = 18$
 $4.5x = 9$
 $x = 2$
 Jisim betik ialah 2 kg.
 The mass of papaya is 2 kg.

(c) Isi padu ruang kosong dalam bekas
 Volume of the empty space in the container
 $= (100\% - 80\%) \times \frac{22}{7} \times \left(\frac{28}{2}\right)^2 \times 25$
 $= 0.2 \times \frac{22}{7} \times 14^2 \times 25$
 $= 3\,080 \text{ cm}^3$
 $= 3.08 \times 10^3 \text{ cm}^3$

29. (a) Jumlah bayaran balik

Total repayment
 $= 24\,000 + (24\,000 \times 0.06 \times 5)$
 $= \text{RM}31\,200$

Bayaran ansuran bulanan

Monthly instalment

$= \frac{31\,200}{5 \times 12}$
 $= \text{RM}520$

(b) (i) P(bola kuning)

P(a yellow ball)

$= 1 - \frac{1}{4} - \frac{10}{32}$
 $= \frac{7}{16}$

(ii) Bilangan bola hijau

Number of green balls

$= \frac{1}{4} \times 32$
 $= 8$

P(bola hijau)

P(a green ball)

$= \frac{8}{32 - 4}$
 $= \frac{8}{28}$
 $= \frac{2}{7}$

(c) $4x - 3 \leq 7 + 6x$, $2x + 4 > 3x$
 $4x - 6x \leq 7 + 3$ $4 > 3x - 2x$
 $-2x \leq 10$ $4 > x$
 $x \geq -5$ $x < 4$

Berdasarkan garis nombor,

Based on the number line,

$x \geq m, x < n$

$m = -5, n = 4$

30. (a) (i) $0.06 : 0.15 : 2.1 = 2 : 5 : \underline{\quad 70 \quad}$

(ii) $\frac{1}{5} : \frac{3}{4} = 4 : \underline{\quad 15 \quad}$

(iii) $1\frac{1}{4} : 8 = \underline{\quad 5 \quad} : 32$

(i) $0.06 : 0.15 : 2.1$
 $= 6 : 15 : 210$
 $\downarrow \div 3 \quad \downarrow \div 3 \quad \downarrow \div 3$
 $= 2 : 5 : 70$

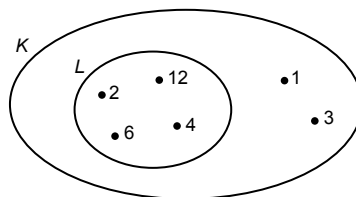
(ii) $\frac{1}{5} : \frac{3}{4} = \frac{1}{5} \times 20 : \frac{3}{4} \times 20$
 $= 4 : 15$

(iii) $1\frac{1}{4} : 8 = \frac{5}{4} : 8$
 $= \frac{5}{4} \times 4 : 8 \times 4$
 $= 5 : 32$

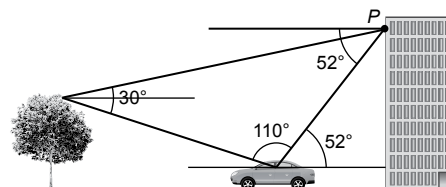
atau / or

$1\frac{1}{4} : 8 = 1.25 : 8$
 $= 125 : 800$
 $= 5 : 32$

(b)



(c)



(i) Sudut dongak puncak pokok dari kereta

Angle of elevation of top of tree from car

$= 180^\circ - 110^\circ - 52^\circ$
 $= 18^\circ$



- (ii) Sudut tunduk puncak pokok dari titik P
Angle of depression of top of tree from point P
 $= 30^\circ - 18^\circ$
 $= 12^\circ$

31. (a) (i) darab dengan (-1)
multiply by (-1)

(ii) $k = -3$

(iii) Hubungan satu kepada satu
One-to-one relation

(b) (i) $y = -1$

(ii) Kecerunan PQ
Gradient of PQ

$$= \frac{2 - (-1)}{0 - (-2)}$$

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

Persamaan PQ
Equation of PQ

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

(c) (i)

