Ujian 8 UASA

BAB 1 - 6

Tarikh : _____

Ujian Pertengahan Sesi Akademik (UPSA)

Skor /100

2 jam / *2 hours*

Bahagian A [20 *markah / marks*]

1. Antara berikut, yang manakah satu jujukan?
Which of the following is a sequence?

A 5, 10, 15, 30, ...
B 5, 10, 20, 25, ...
C 0.5, 0.8, 1.4, 1.6, ...
D 0.5, 1.0, 2.0, 4.0, ...

2. Rajah di bawah menunjukkan pola bagi satu jujukan nombor.
The diagram below shows the pattern of a number sequence.

10 – 3 = 7
10 – 2 = 8
10 – 1 = 9
10 – 0 = 10

Apakah baris seterusnya dalam pola nombor itu?
What is the next line in the number pattern?

A 10 – (–1) = 11
B 10 – 10 = 0
C 10 – 1 = 9
D 10 – 11 = –1

3. Diberi jujukan nombor $1\frac{1}{4}$, $2\frac{1}{2}$, $3\frac{3}{4}$, ..., cari sebutan ke-100.
Given the number sequence $1\frac{1}{4}$, $2\frac{1}{2}$, $3\frac{3}{4}$, ..., *find the* 100th *term.*

A 100
B 110
C 120
D 125

4. Kembangkan ungkapan algebra yang berikut.
Expand the following algebraic expression.

$$\left(2a - \frac{1}{2}b\right)\left(3a - \frac{1}{2}b\right)$$

A $6a^2 - \frac{5}{2}ab + \frac{1}{4}b^2$
B $6a^2 + \frac{1}{2}ab + \frac{1}{4}b^2$
C $6a^2 - \frac{1}{2}ab + \frac{1}{4}b^2$
D $6a^2 + \frac{5}{2}ab - \frac{1}{4}b^2$

5. Faktorkan ungkapan algebra yang berikut.
Factorise the following algebraic expression.

$$e^2 - 14ef + 49f^2$$

A $(e - 7f)(e + 7f)$
B $(e + 7f)(e + 7f)$
C $(e - 7f)(e - 7f)$
D $(e - 14f)(e - 14f)$

6. Permudahkan ungkapan algebra yang berikut.
Simplify the following algebraic expression.

$$\frac{6x + 4y}{8xz} \times \frac{24z^2}{12x + 8y}$$

A $\frac{3z}{2x^2}$
B $\frac{3z}{2x}$
C $\frac{3z^2}{2x}$
D $\frac{2z}{3x}$

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7. Diberi $4j = 6k - 10m$, ungkapkan k sebagai perkara rumus dalam bentuk termudah.
Given $4j = 6k - 10m$, express k as the subject of the formula in the simplest form.

A $k = \frac{2j + 10m}{3}$ C $k = \frac{4j + 5m}{3}$

B $k = \frac{2j + 5m}{3}$ D $k = \frac{4j + 10m}{6}$

8. Diberi $\frac{9}{5}x = 2y - \frac{3}{4}z$, hitung nilai z apabila $x = -15$ dan $y = -15$.
Given $\frac{9}{5}x = 2y - \frac{3}{4}z$, calculate the value of z when $x = -15$ and $y = -15$.

A -2 C -4
B -3 D -5

9. James membeli a botol air mineral dengan harga RMb sebotol. Dia menjual semua botol air mineral dengan harga RMc sebotol dan mengaut keuntungan sebanyak RMd. Ungkapkan a dalam sebutan b, c dan d.
James bought a bottle of mineral water for the price of RMb per bottle. He sold all the mineral water bottles at the price of RMc per bottle and earned a profit of RMd. Express a in terms of b, c and d.

A $a = \frac{d}{b - c}$ C $a = \frac{c}{b + d}$

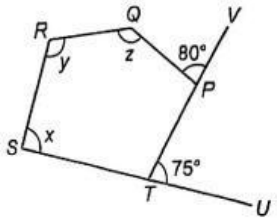
B $a = \frac{d}{b + c}$ D $a = \frac{c}{b - d}$

10. Huey Ting mempunyai RMp. Selepas membelanjakan RM$(q - 4)$ sehari selama 6 hari, dia masih mempunyai baki wang sebanyak RM15. Ungkapkan q dalam sebutan p.
Huey Ting has RMp. After spending RM$(q - 4)$ a day for 6 years, she still has a balance of RM15. Express q in terms of p.

A $q = \frac{p - 9}{6}$ C $q = \frac{p + 9}{3}$

B $q = \frac{p + 9}{6}$ D $q = \frac{p - 9}{3}$

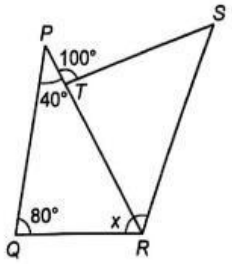
11. Dalam rajah di bawah, *STU* dan *TPV* ialah garis lurus.
In the diagram below, STU and TPV are straight lines.



Cari nilai $x + y + z$.
Find the value of $x + y + z$.

A 315° C 335°
B 325° D 345°

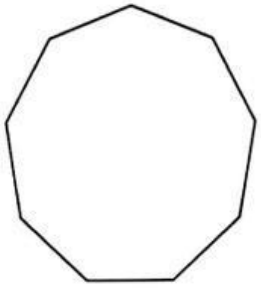
12. Dalam di bawah, *PTR* ialah garis lurus dan $TR = TS$.
In the diagram below, PTR is a straight line and TR = TS.



Cari nilai x.
Find the value of x.

A 100° C 120°
B 110° D 130°

13. Rajah di bawah menunjukkan sebuah nonagon sekata.
The diagram below shows a regular nonagon.



Hitung nilai setiap sudut pedalaman poligon tersebut.
Calculate the value of each of the interior angle of the polygon.

A 130° C 165°
B 140° D 172°

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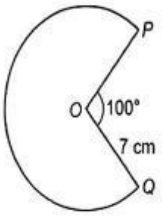
14. Rajah di bawah menunjukkan sektor bagi suatu bulatan berpusat *O*.
The diagram below shows a sector of a circle with centre O.

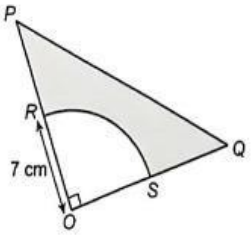


Hitung perimeter, dalam cm, seluruh rajah itu.
Calculate the perimeter, in cm, *of the whole diagram.*
[Guna / *Use* $\pi = \frac{22}{7}$]

A $12\frac{2}{9}$ C $31\frac{7}{9}$

B $26\frac{2}{9}$ D $45\frac{7}{9}$

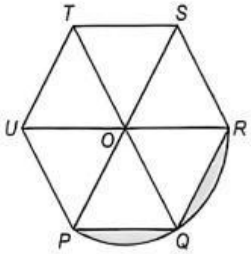
15. Dalam rajah di bawah, *POQ* ialah segi tiga bersudut tegak dan *ROS* ialah sektor bagi sebuah bulatan berpusat *O*. *R* dan *S* masing-masing ialah titik tengah *OP* dan *OQ*.
In the diagram below, POQ is a right-angled triangle and ROS is a sector of a circle with centre O. R and S are the midpoints of OP and OQ respectively.



Hitung luas, dalam cm², kawasan yang berlorek.
Calculate the area, in cm², *of the shaded region.*
[Guna / *Use* $\pi = 3.142$]

A 45.6
B 56.5
C 59.5
D 65.6

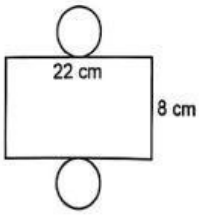
16. Dalam rajah di bawah, *PQRSTU* ialah sebuah heksagon sekata dengan sisi 10 cm dan *PQR* ialah lengkok bagi sebuah bulatan berpusat *O*.
In the diagram below, PQRSTU is a regular hexagon with sides of 10 cm *and PQR is the arc of a circle with centre O.*



Hitung perimeter, dalam cm, kawasan yang berlorek.
Calculate the perimeter, in cm, *of the shaded region.*
[Guna / *Use* $\pi = 3.142$]

A 20.95
B 30.95
C 40.95
D 49.95

17. Rajah di bawah menunjukkan bentangan bagi sebuah silinder.
The diagram below shows the net of a cylinder.



Hitung luas permukaan, dalam cm², silinder itu.
Calculate the surface area, in cm², *of the cylinder.*
[Guna / *Use* $\pi = \frac{22}{7}$]

A 214.5
B 241.5
C 253
D 330

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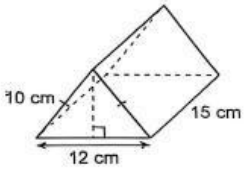
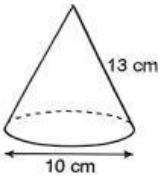
18. Rajah di bawah menunjukkan sebuah prisma tegak.
The diagram below shows a right prism.



Hitung luas permukaan, dalam cm^2, prisma itu.
Calculate the surface area, in cm^2, *of the prism.*

A 514 **C** 540
B 528 **D** 576

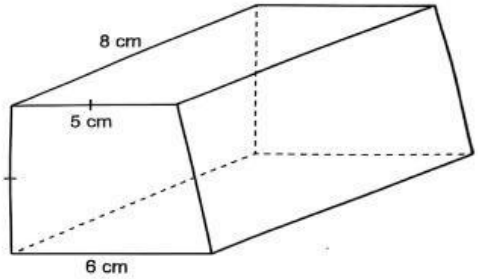
19. Rajah di bawah menunjukkan sebuah kon tegak.
The diagram below shows a right cone.



Hitung isi padu, dalam cm^3, kon itu.
Calculate the volume, in cm^3, *of the cone.*
[Guna / *Use* $\pi = 3.142$]

A 314.2 **C** 942.6
B 340.4 **D** 1 021.2

20. Rajah di bawah menunjukkan sebuah prisma tegak.
The diagram below *shows a right prism.*



Hitung luas keratan rentas, dalam cm^2, bagi prisma di atas.
Calculate the cross-sectional area, in cm^2, *of the above prism.*

A 27.5 **C** 40
B 30 **D** 44

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