

SULIT



**BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN MALAYSIA**

JABATAN KEJURUTERAAN MEKANIKAL

PEPERIKSAAN AKHIR

SESI JUN 2018

SBK1012 : MATEMATIK

TARIKH : 31 OKTOBER 2018

MASA : 11.15 PAGI – 1.15 PETANG (2 JAM)

Kertas ini mengandungi **TIGA BELAS (13)** halaman bercetak.

Struktur (6 soalan)

Dokumen sokongan yang disertakan : Tiada

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

INSTRUCTION:

This section consists of **SIX (6)** structured questions. Answer **FOUR (4)** question only.

ARAHAN :

Bahagian ini mengandungi ENAM (6) soalan berstruktur. Jawab EMPAT (4) soalan sahaja.

QUESTION 1CLO1
C1

a) Identify **FIVE(5)** basic quantities from list below.

Kenalpasti LIMA(5) kuantiti asas daripada senarai dibawah.

Velocity (<i>Halaju</i>), Length (<i>Panjang</i>), Acceleration (<i>Pecutan</i>), Mass (<i>Jisim</i>), Time (<i>Masa</i>), Density (<i>Ketumpatan</i>), Temperature (<i>Suhu</i>), Electric Current (<i>Arus elektrik</i>), Stress (<i>Tegasan</i>), Force(<i>Daya</i>), Voltage (<i>Voltan</i>).
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(5 marks)

CLO1
C2

b) Explain the converting process of the following units.

Terangkan cara penukarkan unit-unit berikut.

- i) 5000g to kg
5000g kepada kg

- ii) 6.2 cm to m
6.2 cm kepada m

(6 marks)

CLO1
C3

c) List TWO(2) of derive quantities with the correct unit.

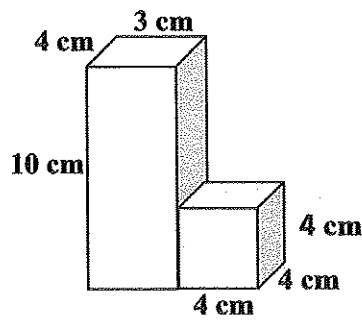
Senaraikan DUA(2) kuantiti terbitan dan berikan unit yang betul.

<i>Kuantiti Terbitan</i>	<i>Unit</i>

(7 marks)

CLO1
C3

d) Calculate the volume for the box.

Kirakan berapa isipadu kotak ini.

(7 marks)

QUESTION 2

CLO1
C1

a) State the following value in standard form.

Nyatakan nilai berikut dalam bentuk piawai

	<i>Nilai</i>	<i>Bentuk Piawai</i>
i.	0.00009	
ii.	55.70	
iii.	20006.96	
iv.	0.22242	
v.	75668.58	
vi.	3.1413	
vii.	824.58	

(7 marks)

CLO1
C2

b) State the proper adjustment to the following sizes

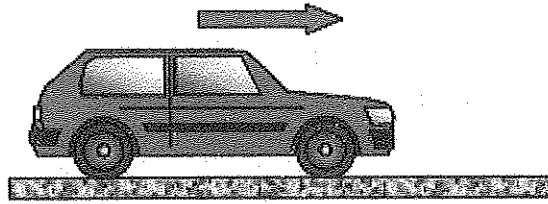
Nyatakan nilai yang betul kepada ukuran berikut.

	<i>Nilai</i>	<i>Imbuhan</i>	<i>Nilai</i>
i.	700 m	km	
ii.	805.5 s	ks	
iii.	5000 Hz	kHz	
iv.	0.00025 g	mg	
v.	9008.9 F	kF	
vi.	4580 A	kA	
vii.	200000 m	km	
viii.	0.000000882 s	μ s	

(8 marks)

CLO1
C3

c)



The times taken for a car to move from point P to Q is 5 minutes. The distance from P to Q is 100m. The car using an unleaded petrol for 1005.5 cm³ and carried 200 kg of load. The car velocity is 20ms⁻¹.

Masa yang diambil oleh sebuah kereta untuk bergerak dari titik P ke Q ialah 5 minit. Jarak dari P ke Q ialah 100 m. Kereta tersebut menggunakan petrol tanpa plumbum sebanyak 100.5 cm³ dan membawa 200 kg beban. Halaju kereta ialah 20 ms⁻¹.

From the text, choose the basic quantities and derived quantities.

Daripada teks, pilih kuantiti asas dan kuantiti terbitan.

<i>Kuantiti Asas</i>	<i>Kuantiti Terbitan</i>

(10 marks)

QUESTION 3

CLO1
C1

- a) Give the definition for perimeter and area and volume.

Berikan definisi bagi perimeter, luas dan isipadu.

Jumlah jarak dikelilingi sisi luar satu bentuk

Jumlah ruang dilitupi oleh satu bentuk

Jumlah ruang yang ditempati oleh jasad tersebut

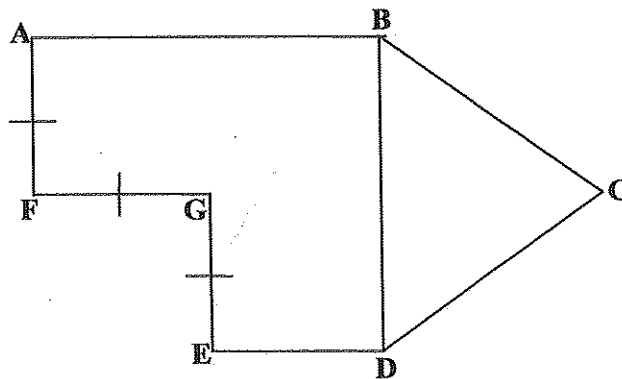
(6 marks)

CLO1
C2

- b) Calculate the perimeter for the figure below.

Kira perimeter bagi gambarajah dibawah.

i)

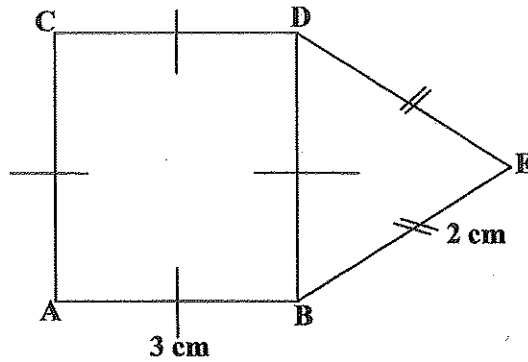


$$AF = FG = GE = 6 \text{ cm}$$

$$BC = DC = BD = 2AF$$

$$ED = 8 \text{ cm}$$

ii)



$$CD = DB = AB = AC = 3 \text{ cm}$$

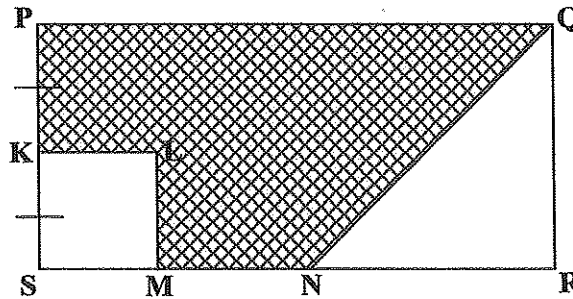
$$DE = BE = 2 \text{ cm}$$

(9 marks)

CLO1
C3

c) From the diagram below, PQRS is a rectangle and KLMS is a square. Calculate the perimeter, in cm, of the shaded region.

Dalam rajah PQRS ialah sebuah segiempat tepat dan KLMS ialah sebuah segiempat sama. Cari perimeter dalam cm bagi kawasan berlorek.



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

$$NQ = 5 \text{ cm}$$

$$NR = 3 \text{ cm}$$

$$PQ = 14 \text{ cm}$$

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

(10 marks)

QUESTION 4

CLO1
C1

a) Give / Write the area formula for the following shape :

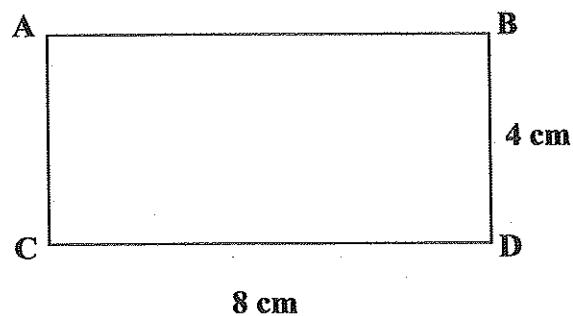
Berikan formula luas bagi bentuk berikut :

- i. Circle
bulatan
- ii. Rectangle
segiempat

(5 marks)

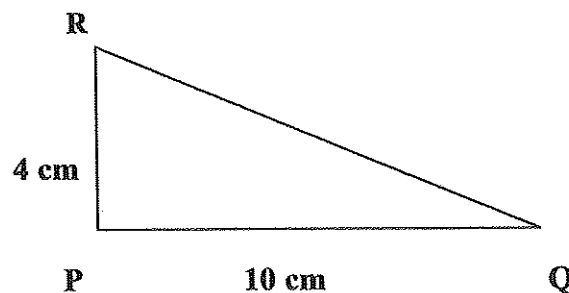
CLO1
C2

b) i. Calculate the area of the rectangle ABCD

Kirakan luas segiempat tepat ABCD

(3 marks)

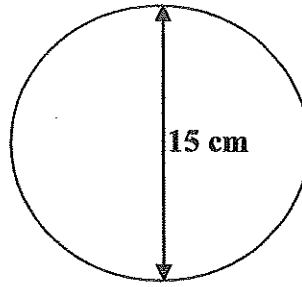
ii. Find the area of the right angled triangle PQR.

Cari luas sigitiga bersudut tegak PQR.

(3 marks)

iii. Find the area of the circle.

Cari luas bagi bulatan.

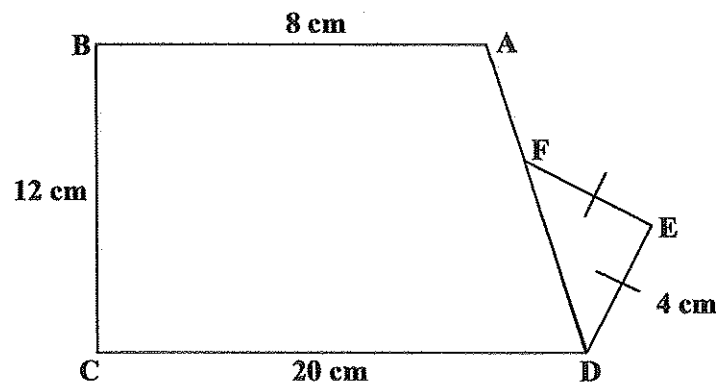


(4 marks)

CLO1
C3

c) Calculate the area of figure ABCDEF.

Kira luas bentuk ABCDEF.

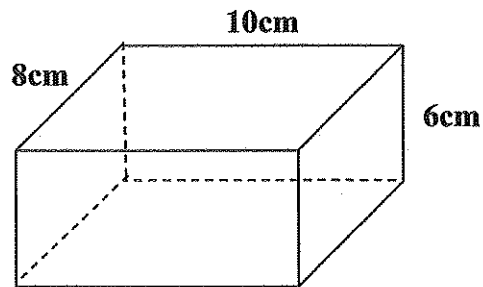


(10 marks)

QUESTION 5

CLO1
C1a) Calculate the volume for the following figure. ($\pi = 3.14$)*Kirakan isipadu bagi rajah di bawah.*

i.

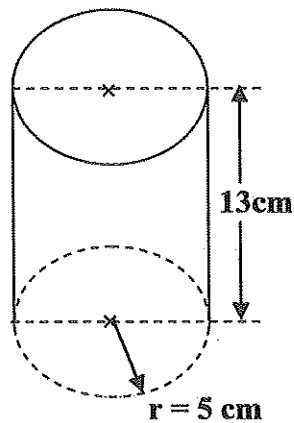


Formula:

$$\text{volume} = \text{base} \times \text{length} \times \text{height}$$

(2 marks)

ii.

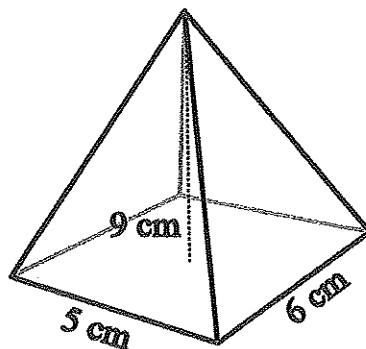


Formula:

$$\text{volume} = \pi r^2 h$$

(2 marks)

iii.



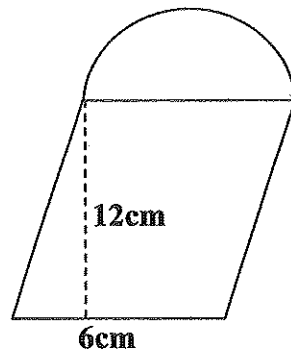
Formula:

$$\text{Volume} = 1/3 \times \text{base} \times \text{height}$$

(2 marks)

CLO1
C2

- b) Calculate the area of the figure.

Hitungkan luas bagi rajah di atas. ($\pi = 3.142$)

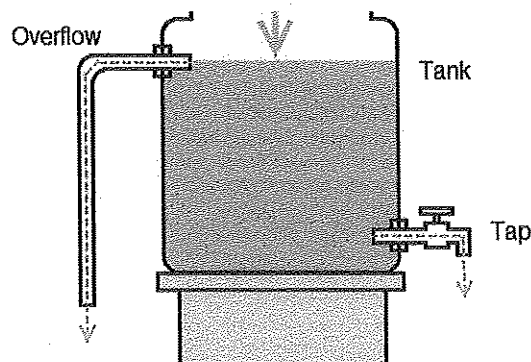
Formula :

Area of semicircle = $\frac{1}{2} \times \pi \times r^2$ Area of parallelogram = base \times height

(7 marks)

CLO1
C3

- c) A rectangular water tank is 3 m long, 1.5 m wide and 2 m in height. Calculate how much water, in
- m^3
- , must be pumped into the tank to make it full.

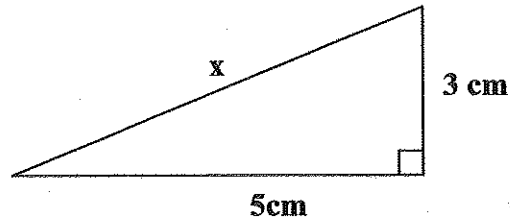
Sebuah tangki air berbentuk segiempat tepat adalah 3 m panjang, 1.5 m lebar dan 2 m tinggi. Kira berapa banyak air, dalam m^3 , mesti di pam ke dalam tangki untuk penuh.

(12 marks)

QUESTION 6

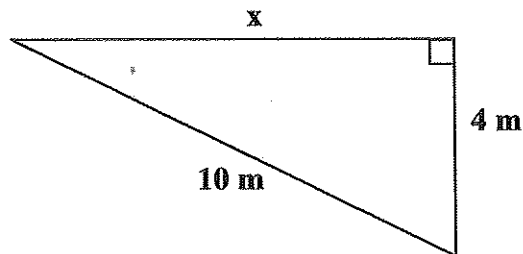
CLO1
C2a) Calculate the value of x .*Hitungkan nilai x .*

i.



(4 marks)

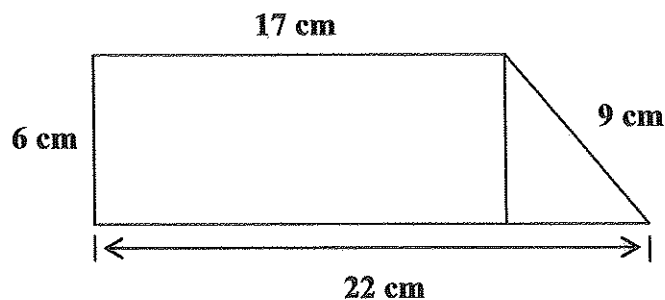
ii.



(4 marks)

CLO1
C3

b)

i) Calculate the **perimeter** of the figure. *Hitungkan perimeter bagi rajah.*ii) Calculate the **area** of the figure. *Hitungkan luas bagi rajah**Formula:**Area of rectangle = length \times width**Area of triangle = $\frac{1}{2} \times$ height \times base*

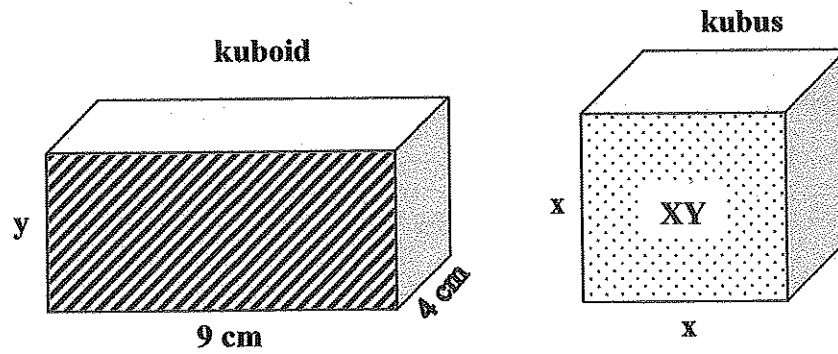
(8 marks)

CLO1
C3

- c) The diagram below shows a cuboid and cube having same volume. The shaded area is 54 cm^2 . Calculate the surface area of XY in cm^2 .

Rajah dibawah menunjukkan kuboid dan kubus yang mempunyai isipadu yang sama.

Luas satah berlorek kuboid ialah 54 cm^2 . Berapakah luas permukaan XY, dalam cm^2 .



(9 marks)

SOALAN TAMAT