PENYELESAIAN LENGKAP

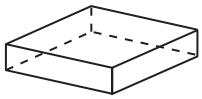
PRAKTIS 6

Praktis Formatif

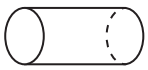
1

Silinder
Cylinder
Jawapan/*Answer*: **D**

2 (a)

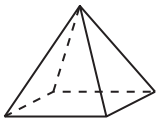


(b)



(c)

(d)



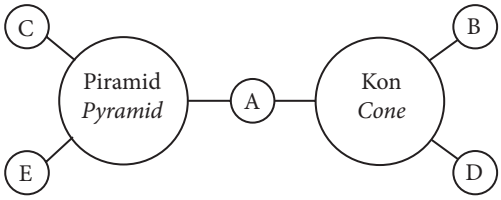
Kon
Cone

Piramid
Pyramid

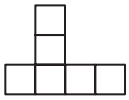
Kuboid
Cuboid

Silinder
Cylinder

3

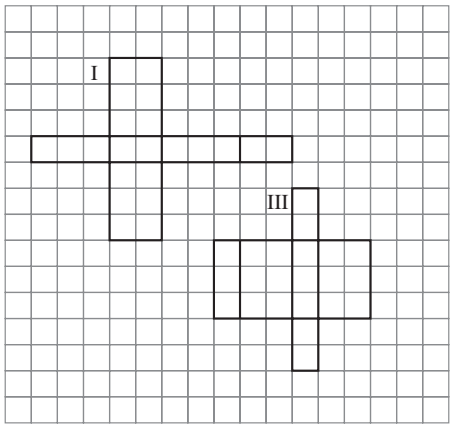


4



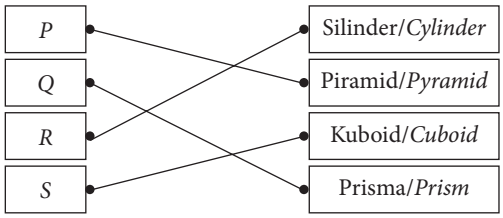
Jawapan/*Answer*: **C**

5

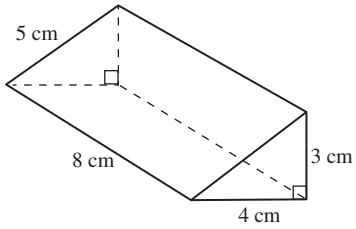


Jawapan/*Answer*: **C**

6



7

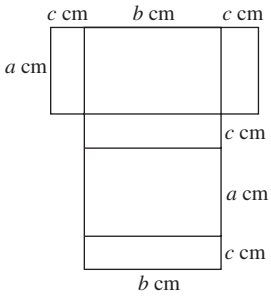


Luas permukaan bagi prisma
Surface area of prism

$= 8 \times 4 + 8 \times 5 + 8 \times 3 + 2 \times \frac{1}{2} \times 4 \times 3$
$= 32 + 40 + 24 + 12$
$= 108 \text{ cm}^2$

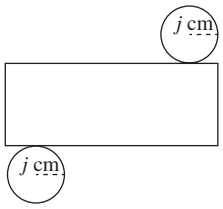
Jawapan/*Answer*: **B**

8 (a)



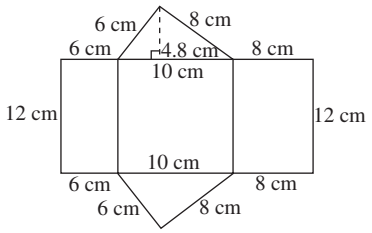
(b) Luas permukaan kuboid
Surface area of cuboid
$= ac + ab + bc + ac + ab + bc$
$= 2ac + 2ab + 2bc$
$= 2(ac + ab + bc)\ \text{cm}^2$

9 (a)



(b) Panjang segi empat tepat = lilitan bulatan
Length of rectangle $=$ *circumference of circle*
$= 2\pi j$ cm
Lebar segi empat tepat = tinggi silinder
Width of rectangle $=$ *height of cylinder*
$= t$ cm
Luas permukaan silinder
Surface area of cylinder
= luas segi empat tepat + 2 × luas bulatan
= *area of rectangle* + 2 × *area of circle*
$= 2\pi j \times t + 2 \times \pi j^2$

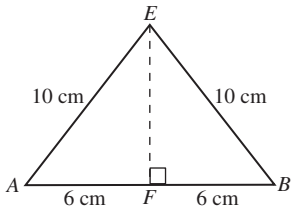
10 (a)



(b) Luas permukaan bagi prisma
Surface area of prism
$= 12 \times 10 + 12 \times 8 + 12 \times 6 + 2 \times \frac{1}{2} \times 10 \times 4.8$
$= 120 + 96 + 72 + 48$
$= 336\ \text{cm}^2$

11 Luas permukaan silinder
Surface area of cylinder
$= 2 \times \pi \times 4^2 + 2\pi \times 4 \times 10$
$= 32\pi + 80\pi$
$= 112\pi\ \text{cm}^2$

12 (a)



$EF^2 = 10^2 - 6^2$
$= 100 - 36$
$= 64$
$EF = 8$ cm
Jarak *E* dari *AB* ialah 8 cm.
Distance of E from AB is 8 cm.

(b) Luas segi empat sama *ABCD*
Area of square ABCD
$= 12 \times 12$
$= 144\ \text{cm}^2$

(c) Luas segi tiga *ABE*
Area of triangle ABE
$= \frac{1}{2} \times 12 \times 8$
$= 48\ \text{cm}^2$

(d) Luas permukaan piramid
Surface area of pyramid
$= 144 + 4 \times 48$
$= 336\ \text{cm}^2$

13 (a) Luas bulatan/*Area of circle*
$= 3.142 \times 10^2$
$= 314.2\ \text{cm}^2$

(b) Luas permukaan melengkung
Curved surface area
$= 3.142 \times 10 \times 30$
$= 942.6\ \text{cm}^2$

(c) Luas permukaan kon
Surface area of cone
$= 314.2 + 942.6$
$= 1\ 256.8\ \text{cm}^2$

14 Jejari belon, $j = 2$ m
Radius of balloon, $j = 2$ m
Luas permukaan belon
Surface area of balloon
$= 4\pi(2)^2$
$= 16\pi\ \text{m}^2$

15 (a) Luas permukaan sfera
Surface area of sphere
$= 4 \times \frac{22}{7} \times 7^2$
$= 616\ \text{cm}^2$

(b) Luas permukaan sfera
Surface area of sphere
$= 4 \times \frac{22}{7} \times 14^2$
$= 2\ 464\ \text{cm}^2$

16 $2 \times \pi \times 6^2 + 2\pi \times 6 \times y = 216\pi$
$72 + 12y = 216$
$12y = 144$
$y = 12$

17 (a) Luas permukaan *ABCD*
Surface area of ABCD
$= 10 \times 16$
$= 160\ \text{cm}^2$
Luas permukaan *ABFE*
Surface area of ABFE
$= 10 \times 12$
$= 120\ \text{cm}^2$
Luas permukaan *BCGF*
Surface area of BCGF
$= 16 \times 12$
$= 192\ \text{cm}^2$

Luas permukaan *EFKJ*
Surface area of EFKJ

$= \frac{1}{2} \times (4 + 10) \times 4$

$= \frac{1}{2} \times 14 \times 4$

$= 28 \text{ cm}^2$

Luas permukaan *FGLK*
Surface area of FGLK

$= 16 \times 5$

$= 80 \text{ cm}^2$

Luas permukaan *JKLM*
Surface area of JKLM

$= 4 \times 16$

$= 64 \text{ cm}^2$

(b) Luas permukaan pepejal gabungan
Surface area of composite solid

$= 160 + 2(120) + 2(192) + 2(28) + 2(80) + 64$

$= 160 + 240 + 384 + 56 + 160 + 64$

$= 1\,064 \text{ cm}^2$

18 Isi padu piramid
Volume of pyramid

$= \frac{1}{3} \times 12 \times 10 \times 15$

$= 600 \text{ cm}^3$

Jawapan/*Answer*: **B**

19 (a) Isi padu prisma $= \frac{1}{2} \times$ isi padu kuboid

Volume of prism $= \frac{1}{2} \times$ *volume of cuboid*

$= \frac{1}{2} \times a \times b \times c$

= luas tapak × tinggi
area of base × *height*

(b) Luas bulatan × tinggi
Area of circle × *height*

$= \pi j^2 t$

20 (a) Isi padu kuboid = 3 × isi padu piramid
Volume of cuboid = 3 × *volume of pyramid*

(b) Isi padu piramid $= \frac{1}{3} \times$ luas tapak × tinggi

Volume of pyramid $= \frac{1}{3} \times$ *base area* × *height*

21 Isi padu prisma/*Volume of prism*

$= \frac{1}{2} \times 8 \times 6 \times 4$

$= 96 \text{ cm}^3$

22 (a) Isi padu piramid
Volume of pyramid

$= \frac{1}{3} \times 21 \times 4$

$= 28 \text{ cm}^3$

(b) Isi padu piramid = 20 cm³
Volume of pyramid = 20 cm³

$\frac{1}{3} \times L \times 5 = 20$

$5L = 60$

$L = 12$

Luas tapak = 12 cm²
Base area = 12 cm²

(c) Isi padu kon = 80 cm³
Volume of cone = 80 cm³

$\frac{1}{3} \times 30 \times t = 80$

$10t = 80$

$t = 8$

Tinggi/*Height* = 8 cm

23 (a) Isi padu bola tenis
Volume of tennis ball

$= \frac{4}{3} \times \frac{22}{7} \times 3.5^3$

$= 179.7 \text{ cm}^3$

(b) Isi padu bola lisut
Volume of softball

$= \frac{4}{3} \times \frac{22}{7} \times 4.9^3$

$= 493 \text{ cm}^3$

(c) Isi padu bola sepak
Volume of football

$= \frac{4}{3} \times \frac{22}{7} \times 10.85^3$

$= 5\,352.4 \text{ cm}^3$

24 (a) Isi padu prisma
Volume of prism

$= \frac{1}{2} \times 8 \times 16 \times 11$

$= 704 \text{ cm}^3$

(b) $\frac{22}{7} \times j^2 \times 14 = 704$

$j^2 = 16$

$j = 4 \text{ cm}$

25 Isi padu pepejal gabungan
Volume of composite solid

$= \pi \times 3^2 \times 4 + \frac{2}{3}\pi \times 3^3$

$= 36\pi + 18\pi$

$= 54\pi \text{ cm}^3$

26 (a) $x(3)(15) + 10(x)(8) = 1\,500$

$45x + 80x = 1\,500$

$1\,25x = 1\,500$

$x = 12$

(b) Luas permukaan pepejal gabungan
Surface area of composite solid

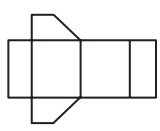
$= 2(12 \times 15) + 2(12 \times 3) + 2(15 \times 3) + 2(10 \times 12) + 2(10 \times 8)$

$= 360 + 72 + 90 + 240 + 160$

$= 922 \text{ cm}^2$

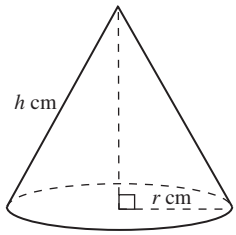
Praktis Sumatif

1



Jawapan/*Answer*: **A**

2



$h : r = 3 : 4$

$\frac{h}{r} = \frac{3}{4}$

$h = \frac{3}{4}r$

$\frac{1}{3}\pi r^2 h = 2\,000\pi$

$\frac{1}{3}\pi r^2\left(\frac{3}{4}r\right) = 2\,000\pi$

$\frac{1}{4}r^3 = 2\,000$

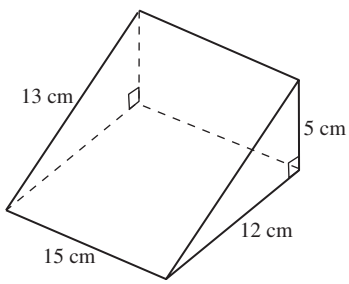
$r^3 = 8\,000$

$r = \sqrt[3]{8\,000}$

$= 20$ cm

Jawapan/*Answer*: **C**

3



Luas permukaan prisma
Surface area of prism

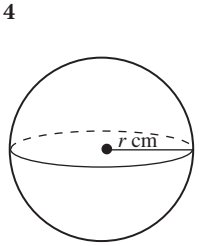
$= 15 \times 12 + 15 \times 13 + 15 \times 5 + 2 \times \frac{1}{2} \times 12 \times 5$

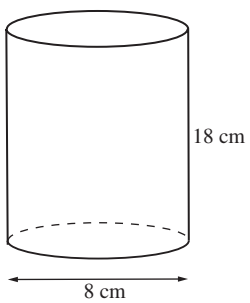
$= 180 + 195 + 75 + 60$

$= 510\ \text{cm}^2$

Jawapan/*Answer*: **D**

4





$\frac{4}{3}\pi r^3 = \pi(4)^2(18)$

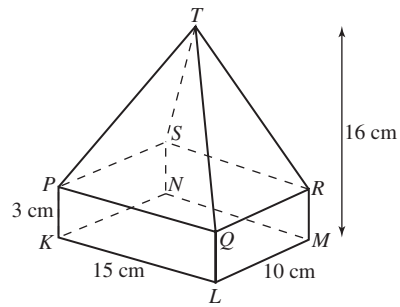
$\frac{4}{3}r^3 = 288$

$r^3 = 216$

$r = 6$ cm

Jawapan/*Answer*: **B**

5



Isi padu pepejal gabungan
Volume of composite solid

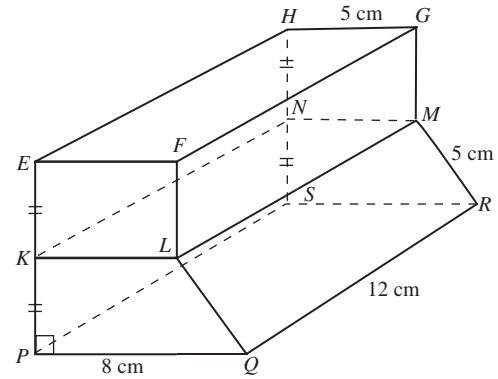
$= 15 \times 10 \times 3 + \frac{1}{3} \times 15 \times 10 \times 13$

$= 450 + 650$

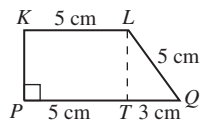
$= 1\,100\ \text{cm}^3$

Jawapan/*Answer*: **B**

6



(a)



$LT^2 = 5^2 - 3^2$

$= 25 - 9$

$= 16$

$LT = 4$ cm

$KP = 4$ cm

(b) Isi padu pepejal
Volume of solid

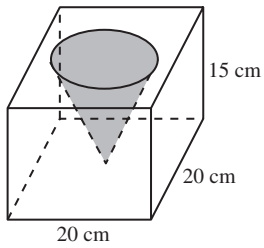
$= \frac{1}{2} \times (5 + 8) \times 4 \times 12 + 5 \times 12 \times 4$

$= \frac{1}{2} \times 13 \times 4 \times 12 + 240$

$= 312 + 240$

$= 552\ \text{cm}^3$

7



$$20^2 \times 15 - \frac{1}{3}\pi \times 7^2 \times h = 5\,384$$

$$6\,000 - \frac{1}{3} \times \frac{22}{7} \times 7^2 \times h = 5\,384$$

$$6\,000 - \frac{154}{3}h = 5\,384$$

$$\frac{154}{3}h = 616$$

$$h = 12 \text{ cm}$$