

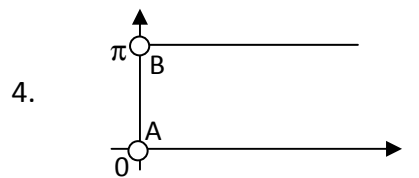
Problem Sets Matematika Fisika III

A.

1.  $\oint_C \frac{dZ}{z-i}$   
 $C : |Z| = 2$

2.  $\oint_C \frac{5Z dZ}{Z^2 + 4}$

3.  $\int_0^{2\pi} \frac{d\theta}{1+1/2\cos\theta}$



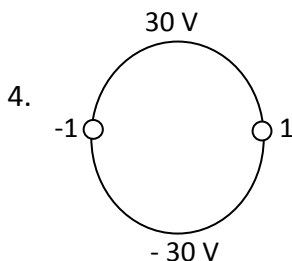
Gbr bidang W dng  $F(z) = \cosh Z$

B.

1.  $\oint_C \frac{\cos Z dZ}{z}$   
 $C : |Z| = 1$

2.  $\oint_C \frac{Z dZ}{9Z^2 + 1}$

3.  $\int_0^\pi \frac{d\theta}{\pi + \cos\theta}$



Gbr bidang W dng  $F(z) = \frac{1+Z}{1-Z}$

C.

1.  $\oint_C \frac{\cos Z dZ}{z}$   
 $C : |Z| = 3$

2.  $\oint_C \frac{Z + e^Z dZ}{Z^2 - Z}$

3.  $\int_0^{2\pi} \frac{d\theta}{3Z + 12\cos\theta}$

4. Lihat soal B.4 dengan  $F(Z) = \ln \frac{Z+1}{Z-1}$   
 tentukan  $V(x,y)$

D.

1.  $\oint_C \frac{dZ}{Z^2 + 1}$   
 $C : |Z + i| = 1$

2.  $\oint_C \frac{Z^2 \sin Z dZ}{4Z^2 - 1}$

3.  $\int_0^{2\pi} \frac{d\theta}{5 - 3\sin\theta}$

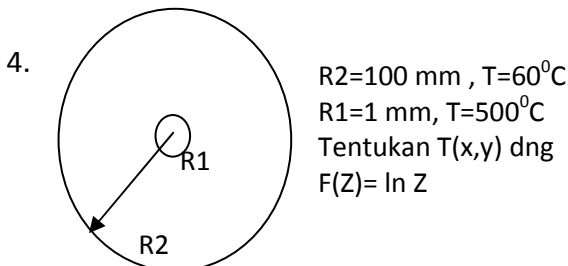
4. Lihat soal B.4 tentukan  $V(x,y)$

E.

1.  $\oint_C \frac{dZ}{Z^2 + 1}$   
 $C : |Z - i| = 1$

2.  $\oint_C \frac{Z dZ}{Z^2 - 1/4}$

3.  $\int_0^{2\pi} \frac{d\theta}{5/4 - \sin\theta}$



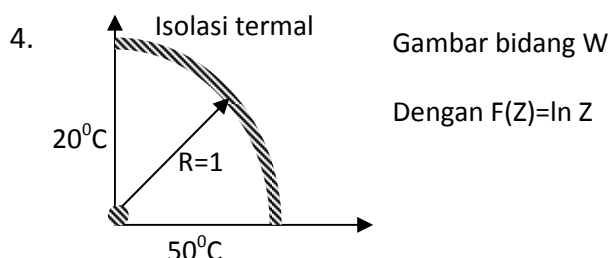
$R_2 = 100 \text{ mm}$ ,  $T = 60^\circ\text{C}$   
 $R_1 = 1 \text{ mm}$ ,  $T = 500^\circ\text{C}$   
 Tentukan  $T(x,y)$  dng  $F(Z) = \ln Z$

F.

1.  $\oint_C \frac{\sin Z dZ}{Z + 3i}$   
 $C : |Z - 2 + 3i| = 1$

2.  $\oint_C \frac{7Z dZ}{Z^2 + 1/9}$

3.  $\int_0^{2\pi} \frac{\cos\theta d\theta}{3 + \sin\theta}$



Gambar bidang W  
 Dengan  $F(Z) = \ln Z$

G.

1.  $\oint_C \frac{2Z+1 dZ}{Z^2 + Z}$   
 $C : |Z| = 1/4$

2.  $\oint_C \frac{dZ}{Z^2 + 6iZ}$

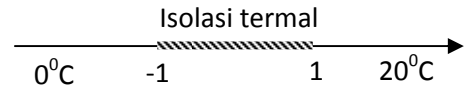
3.  $\int_0^{2\pi} \frac{\cos\theta d\theta}{17 - 8\cos\theta}$

4. Lihat soal F.4 tentukan  $T(x,y)$

H.

1.  $\oint_C \frac{2Z+1 dZ}{Z^2+Z}$       2.  $\oint_C \frac{e^{-Z^2} dZ}{\sin 4Z}$       3.  $\int_0^{2\pi} \frac{\sin^2 \theta d\theta}{5-4\cos \theta}$       4.

$C: |Z - 1/2| = 1/4$



Gambar bidang W dengan  $F(Z) = \arcsin Z$

I.

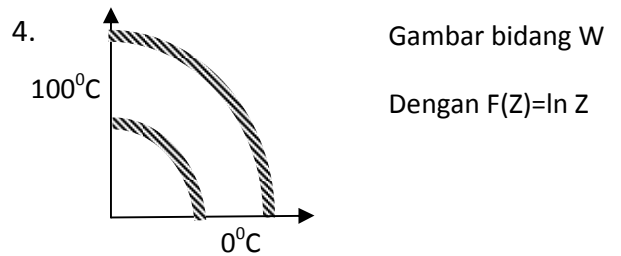
1.  $\oint_C \frac{2Z+1 dZ}{Z^2+Z}$       2.  $\oint_C \frac{e^Z dZ}{Z(Z-\frac{\pi i}{4})^2}$       3.  $\int_{-\infty}^{\infty} \frac{dx}{1+x^2}$       4. Lihat soal H.4 tentukan  $T(x,y)$

$C: |Z| = 2$

J.

1.  $\oint_C \frac{dZ}{1+Z^3}$       2.  $\oint_C \frac{\tan \pi Z dZ}{Z^3}$       3.  $\int_{-\infty}^{\infty} \frac{dx}{(4+x^2)^2}$       4.

$C: |Z + 1| = 1$



K.

1.  $\oint_C \frac{3Z+1 dZ}{-Z+Z^3}$       2.  $\oint_C \frac{e^Z dZ}{\cos \pi Z}$       3.  $\int_{-\infty}^{\infty} \frac{dx}{1+x^4}$       4. Lihat soal J.4 Tentukan  $T(x,y)$

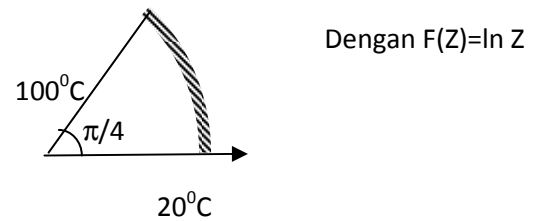
$C: |Z| = 1/2$

Dengan  $F(Z) = \ln Z$

L.

1.  $\oint_C \frac{3Z+1 dZ}{-Z+Z^3}$       2.  $\oint_C \frac{(Z+4)^3 dZ}{Z^4+5Z^3+6Z^2}$       3.  $\int_{-\infty}^{\infty} \frac{x dx}{(-2x+2+x^2)^2}$       4.

$C: |Z| = 2$



M.

1.  $\oint_C \operatorname{Re}(Z^2) dZ$       2.  $\oint_C \frac{e^{-Z^2} dZ}{\sin 2Z}$       3.  $\int_{-\infty}^{\infty} \frac{dx}{(x^2+1)(x^2+9)}$       4. Lihat soal L.4 tentukan  $T(x,y)$

$C$ : Segitiga dng titik sdt

Dengan  $F(Z) = \ln Z$

0, 2 dan  $2+i$