

Zon RST Bab 3

Aras Rendah **R**

1. Kamirkan $4x^5$ terhadap x .
Integrate $4x^5$ with respect to x .
2. Cari kamiran tak tentu bagi 7 terhadap x .
Find the indefinite integral of 7 with respect to x .
3. Kamirkan $5x^3 - 4x$ terhadap x .
Integrate $5x^3 - 4x$ with respect to x .
4. Fungsi kecerunan bagi suatu lengkung diberi oleh $\frac{dy}{dx} = 2x + 1$. Jika lengkung itu melalui titik (1, 5), cari persamaan lengkung itu.
The gradient function of a curve is given by $\frac{dy}{dx} = 2x + 1$. If the curve passes through the point (1, 5), find the equation of the curve.
5. Selesaikan $\int_1^4 (3x^2) dx$.
Solve $\int_1^4 (3x^2) dx$.

Aras Sederhana **S**

6. Kamirkan $\left(3x - \frac{1}{2}\right)^2$ terhadap x .
Integrate $\left(3x - \frac{1}{2}\right)^2$ with respect to x .
7. Fungsi kecerunan bagi suatu lengkung diberi oleh $\frac{dy}{dx} = 4(2x + 3)^3$. Jika lengkung itu melalui titik (-1, 2), cari persamaan lengkung itu.
The gradient function of a curve is given by $\frac{dy}{dx} = 4(2x + 3)^3$. If the curve passes through the point (-1, 2), find the equation of the curve.

8. Cari isi padu janaan, dalam sebutan π , bagi rantau yang dibatasi oleh lengkung $x = \sqrt{y+1}$, paksi-y dan garis-garis $y = 0$ and $y = 3$ yang diputarkan melalui 360° pada paksi-y.
 Find the generated volume, in terms of π , when the region bounded by the curve $x = \sqrt{y+1}$, the y-axis, and the lines $y = 0$ and $y = 3$ is revolved through 360° about the y-axis.

Aras Tinggi **T**

9. Cari luas rantau yang dibatasi oleh lengkung $y = x^3 - 4x$ dan $y = x^2 - 4$.
 Find the total area enclosed by the curves $y = x^3 - 4x$ and $y = x^2 - 4$.
10. Cari isi padu janaan, dalam sebutan π , bagi rantau yang dibatasi oleh lengkung $y = x^2$ dan garis lurus $y = 2x + 3$ yang diputarkan melalui 360° pada paksi-x.
 Find the generated volume, in terms of π , when the region bounded by the curve $y = x^2$ and the straight line $y = 2x + 3$ is revolved through 360° about the x-axis.

Jawapan

1. $\frac{2}{3}x^6 + c$
2. $7x + c$
3. $\frac{5}{4}x^4 - 2x^2 + c$
4. $y = x^2 + x + 3$
5. 63
6. $3x^3 - 6x - \frac{1}{x} + c$
7. $y = \frac{1}{2}(2x + 3)^4 + \frac{3}{2}$
8. $\frac{15}{2}\pi \text{ unit}^3$
9. $\frac{71}{6} \text{ unit}^2$
10. $\frac{1\,088}{15}\pi \text{ unit}^3$