

Zon RST Bab 1

Aras Rendah **R**

- Diberi $f(x) = 4x - 3$, cari nilai x yang dipetakan kepada 9.
Given $f(x) = 4x - 3$, find the value of x which is mapped onto 9.
- Diberi fungsi $f : x \mapsto 2x + 3$.
Given a function $f : x \mapsto 2x + 3$.
 - Cari nilai $f(4)$.
Find the value of $f(4)$.
 - Jika $f(a) = 23$, cari nilai a .
If $f(a) = 23$, find the value of a .
- Diberi bahawa $f(x) = 2x^2 + 3$ dan $g(x) = 2 - x$, cari
Given that $f(x) = 2x^2 + 3$ and $g(x) = 2 - x$, find
 - $fg(x)$,
 - $gf(x)$.
- Fungsi f ditakrifkan oleh $f(x) = \frac{x}{x-1}, x \neq 1$. Selesaikan $ff(x) = 2x - 3$.
The function f is defined by $f(x) = \frac{x}{x-1}, x \neq 1$. Solve $ff(x) = 2x - 3$.
- Jika $f : x \rightarrow \frac{x-1}{2}$, cari f^{-1} .
If $f : x \rightarrow \frac{x-1}{2}$, find f^{-1} .

Aras Sederhana **S**

- Diberi bahawa $f(x) = 3x + 2$ dan $fg(x) = 23 - 3x$. Cari fungsi g .
Given that $f(x) = 3x + 2$ and $fg(x) = 23 - 3x$. Find the function g .
- Diberi $f(x) = \frac{a}{x+2}, x \neq -2$, cari nilai a jika $f^2(-1) + 2f^{-1}(-1) = -3$.
Given $f(x) = \frac{a}{x+2}, x \neq -2$, find the value of a if $f^2(-1) + 2f^{-1}(-1) = -3$.

8. Fungsi f dan g ditakrifkan oleh $f(x) = \sqrt{x-2}$, $x \geq 2$.
The functions f and g are defined by $f(x) = \sqrt{x-2}$, $x \geq 2$.
- Cari / Find $f^{-1}(x)$.
 - Tunjukkan bahawa $ff^{-1}(x) = x$.
Show that $ff^{-1}(x) = x$.

Aras Tinggi **T**

9. Fungsi f dan g ditakrifkan oleh $f(x) = x^2$ dan $g(x) = x + 1$.
The functions f and g are defined by $f(x) = x^2$ and $g(x) = x + 1$.
- Cari fungsi h apabila $h(x) = fg(x)$.
Find the function h when $h(x) = fg(x)$.
 - Cari nilai x jika $h(x) = 25$.
Find the value of x if $h(x) = 25$.
10. Diberi bahawa $f(x) = 2x + 1$ dan $g(x) = \frac{1}{x}$.
Given that $f(x) = 2x + 1$ and $g(x) = \frac{1}{x}$.
- Cari fungsi $gf(x)$.
Find the function $gf(x)$.
 - Cari fungsi $(gf)^{-1}(x)$.
Find the function $(gf)^{-1}(x)$.
 - Diberi bahawa $gf(x) = (gf)^{-1}(x)$, cari nilai-nilai x .
Given that $gf(x) = (gf)^{-1}(x)$, find the values of x .

Jawapan

1. $x = 3$
2. (a) 11
(b) $a = 10$
3. (a) $fg(x) = 2x^2 - 8x + 11$
(b) $gf(x) = -2x^2 - 1$
4. $x = 3$
5. $f^{-1}(x) = 2x + 1$
6. $g(x) = \frac{21 - 3x}{3}$
7. $a = -1$
8. (a) $f^{-1}(x) = x^2 + 2$
9. (a) $h(x) = x^2 + 2x + 1$
(b) $x = -6, x = 4$
10. (a) $gf(x) = \frac{1}{2x + 1}$
(b) $(gf)^{-1}(x) = \frac{1 - x}{2x}$
(c) $x = \frac{1}{2}, x = -1$