**Diket:**

g($x$) $=$ $x$2 – 3$x$ $+$ 1

(f 。g) ($x$) $=$ 2$x$2 – 6$x$ – 1

**Dit :** f($x$) $=$ …..?

**Jawab :**

(f 。g) (x) $=$ f( g($x$) ) $=$ 2$x$2 – 6$x$ – 1

f ($x$2 – 3$x$ $+$ 1) $= $2$x$2 – 6$x$ – 1

**Misalkan :**

$a=$ $x$2 – 3$x$ $+$ 1

$a=$ $x$2 – 3$x$ $+$ $\frac{9}{4}$ $-$ $\frac{9}{4}$ $+$ 1

$a=$ $\left(x- \frac{3}{2}\right)^{2}$$-$ $\frac{9}{4}$ $+$ $\frac{4}{4}$

$a=$ $\left(x- \frac{3}{2}\right)^{2}$ $-$ $\frac{5}{4}$

$a$ $+ $ $\frac{5}{4}$ $= \left(x- \frac{3}{2}\right)^{2}$

$\sqrt{a+\frac{5}{4}}$ $=$ $ x- \frac{3}{2} $

$x= \frac{3}{2 }+ \sqrt{a-\frac{5}{4}}$

$f \left(a\right)=2 \left(\frac{3}{2}+ \sqrt{a- \frac{5}{4}}\right)^{2}-6 \left(\frac{3}{2}+ \sqrt{a- \frac{5}{4}}\right)-1$

$f \left(x\right)=2 \left(\frac{9}{4}+ 3\sqrt{x- \frac{5}{4}} +x- \frac{5}{4}\right)-9-6\sqrt{x- \frac{5}{4}}-1$

$f \left(x\right)=\frac{18}{4}+ 6\sqrt{x- \frac{5}{4}} +2x- \frac{10}{4}-9-6\sqrt{x- \frac{5}{4}}-1$

$f \left(x\right)=\frac{18}{4}- \frac{10}{4}- \frac{4}{4}- \frac{36}{4}+2x$

$f \left(x\right)=2x-8$