GCSE HIGHER · REVISION MAT 2

Functions

1 $f(x) = 10 - 2x$

Find $f(3)$.

2 $g(x) = \frac{x}{2} + 5$

Find $g(-4)$.

3 $h(x) = x^2 - 4$

Sam says $h(-2) = -8$.

Is Sam correct?

4 $f(x) = 4x + 1$

Find the value of x for which $f(x) = x$.

5 $f(x) = x - 5$ and $g(x) = 3x$

Find $gf(x)$ and $fg(x)$.

6 $f(x) = \frac{2x - 1}{5}$

Find $f^{-1}(3)$.

7 $f(x) = \frac{1}{x - 2}$

Find $f^{-1}(x)$.

8 $f(x) = x^2 + 2x$ and $g(x) = x - 1$

Show that $fg(x) = x^2 - 1$.

Solve $fg(x) = 8$.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Functions

1 **4**

2 $-2 + 5$

3

3 $(-2)^2 - 4 = 0$

No, $h(-2) = 0$

4 $4x + 1 = x$

$x = -\frac{1}{3}$

5 **$gf(x) = 3x - 15$**

$fg(x) = 3x - 5$

6 $f^{-1}(x) = \frac{5x + 1}{2}$

$f^{-1}(3) = 8$

7 $x = \frac{1}{y - 2} \Rightarrow y - 2 = \frac{1}{x}$

$f^{-1}(x) = \frac{1}{x} + 2$

8 $(x - 1)^2 + 2(x - 1)$

$= x^2 - 2x + 1 + 2x - 2 = x^2 - 1$

$x = 3$ or $x = -3$

Mr&Mrs MATHS