Functional Notation

$$f(x) = ax^n + bx^{n-1} + cx^{n-2} + \cdots + dx + k$$

Example To evaluate $f(x) = 3x^2 + 2x + 5$ at $x = 4$, everywhere there is an x, substitute a 4 and simplify the expression.

$f(x) = 3x^2 + 2x + 5$
$f(4) = 3(4)^2 + 2(4) + 5$
$f(4) = 3(16) + 8 + 5$
$f(4) = 48 + 8 + 5$
$f(4) = 61$ The value of f(x) at x = 4 is 61.

Find the values of the following functions.

1. $f(x) = 5x - 2$, find $f(6)$

2. $g(x) = x^2$, find $g(10)$

3. $h(x) = 4x^2 - 1$, find $h(3)$

4. $t(x) = x^2 + 5x + 6$, find $t(4)$

5. $f(x) = 2x - 3$, find $f(0)$

6. $s(x) = 2x^2 + 3x + 100$, find $s(0)$

7. $h(x) = x^2 - 25$, find $f(5)$

8. $g(x) = (x - 3)^2$, find $g(5)$

9. $f(t) = -16t^2$, find $f(2)$

10. $q(t) = 4t^2 + 5t$, find $q(3)$

11. If $f(x) = 2x^2 - 3x + 5$, find the value of f when $x = 3$.

12. If $h(t) = -16t^2 + 25t$, find the value of h when $t = 2$

13. If the height above ground of an object is given by the function $h(t) = 20 + 128t - 16t^2$, where h represents the height and t represents time in seconds, find the height of the object at 2 seconds.

