Tutorial 4 - Sheet 1

1. Given

$$f(x) = 2x^2 - x$$

evaluate

(a) $f(-1)$
(b) $f(0)$
(c) $f\left(\frac{1}{4}\right)$
(d) $f(0.6)$

2. Describe in words the rule associated with each of the following functions.

(a) $f(x) = \frac{x-2}{3}$

(b) $g(t) = t^2 + 1$

(c) $h(v) = (2v+3)^2$

(d) $M(n) = \frac{1}{n} + n$

(e) $A(b) = 4 - \frac{b}{2}$

3. Given

$$g(t) = 2t^2 + 3$$

find expressions for

(a) $g(x)$
(b) $g(n+1)$
(c) $g(\alpha)$
(d) $g\left(\frac{1}{t}\right)$
(e) $g(g(t))$

4. The function $g(t)$ is defined by

$$g(t) = \begin{cases} t, & -1 \le t \le 2; \\ 3 - 0.5t & 2 < t \le 4; \\ 2 & 4 < t \le 5. \end{cases}$$

(a) Plot a graph of $g(t)$
(b) State the domain of g.
(c) Sate the range of g.
(d) State the independent variable.
(e) State the dependent variable