1 (iii) $p(x) = x^4 - 5x + 6$

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

$= -x^2 + 2$

$$
\begin{array}{r}
-x^2 - 2 \\
-x^2+2 \;\overline{)\; x^4 - 5x + 6} \\
\underline{x^4 \qquad\quad -2x^2} \\
2x^2 - 5x + 6 \\
\underline{2x^2 \qquad\quad -4} \\
-5x + 10
\end{array}
$$

quot. $= -x^2 - 2$

rem. $= -5x + 10$

2 (i) let $g(t) = t^2 - 3$, $p(t) = 2t^4 + 3t^3 - 2t^2 - 9t - 12$

$$
\begin{array}{r}
2t^2 + 3t + 4 \\
t^2-3 \;\overline{)\; 2t^4 + 3t^3 - 2t^2 - 9t - 12} \\
\underline{2t^4 \qquad\quad -6t^2} \\
3t^3 + 4t^2 - 9t - 12 \\
\underline{3t^3 \qquad\quad -9t} \\
4t^2 - 12 \\
\underline{4t^2 - 12} \\
0
\end{array}
$$

$\because$ remainder $= 0$

$\therefore$ $g(t)$ is a factor of $p(t)$.