1.7 FACTOR THEOREM

e.g.1: Divide x^3+2x^2-x-2 by $x-1$

FACTOR THEOREM

$x-b$ is a factor of $P(x)$ if and only if $P(b) = 0$

$ax-b$ is a factor of $P(x)$ if and only if $P(b/a) = 0$

e.g.2: Find the remainder when $27x^3-18x^2+15x-4$ is divided by $3x-1$

e.g.3: If $x+3$ is a factor of $f(x) = x^3+3x^2+4x+k$, find k

e.g.4: Graph $f(x) = 3x^3+2x^2-7x+2$ if one of the zeros is 1