Factor Polynomials

$2x^3 + 5x^2 - 2x - 5$

$2x^2(x+2.5) - 2(x+2.5)$

* might be easier to see what to factor if you combine & substitute.

eg let $u = x + 2.5$

$u = x + 2.5$

and substitute

$2x^2u - 2u$

$2u(x^2 - 1)$

$2u$

↓ replace u

$2(x+2.5)$ TAKE VALUE IN PARENTHESIS AND SET TO ZERO.

$x + 2.5 = 0$

$\boxed{x = -2.5}$

$x^2 - 1 = 0$

$x = 1$

$\boxed{x = \pm\sqrt{1} = \pm 1}$

$2x^2(x+2.5) - 2(x+2.5)$

$(x+2.5)(2x^2-2)$

$2x^2 - 2$

$2(x^2-1)$

$x^2 - 1 = 0$

$x^2 = 1$

$\sqrt{x^2} = \pm\sqrt{1}$

$\boxed{x = \pm 1}$

$x + 2.5 = 0$

$\boxed{x = -2.5}$