First factor out a -1, rewrite the middle term, group the terms, and factor out the common binomial factor.

$$-1\left(2x^2 - 5x - 3\right) = -1\left(2x^2 + x - 6x - 3\right) = -1\left[\left(2x^2 + x\right) + (-6x - 3)\right]$$

$$= -1[x(2x + 1) - 3(2x + 1)] = -1(2x + 1)(x - 3)$$