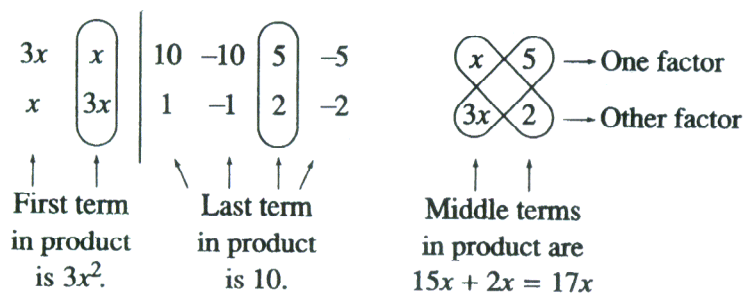


For example, consider this product:

$$(3x + 2)(x + 5) = 3x^2 + 15x + 2x + 10$$

$$= 3x^2 + 17x + 10$$

To factor $3x^2 + 17x + 10$, we list the possibilities for the first and the last terms.



There is only one possibility that gives a middle term of $17x$.

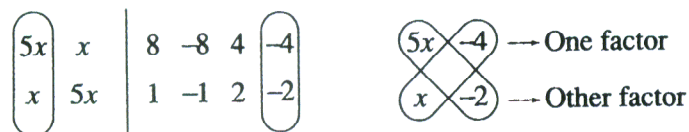
Therefore, $3x^2 + 17x + 10 = (x + 5)(3x + 2)$

Example 1

Factor $5x^2 - 14x + 8$.

Solution

List the possibilities for the first and last terms, then look for a combination that gives a middle term of $-14x$.



There is only one combination that gives a middle term of $-14x$.

Therefore, $5x^2 - 14x + 8 = (5x - 4)(x - 2)$