**SOME PARTICULARLY GOOD FACTORISATIONS WHERE STUDENTS NEED TO CONSIDER ALL POSSIBILITIES.**

***1. 4x2 + 5x – 9***

***2. 4x2 + 16x – 9***

***3. 4x2 + 9x – 9***

***4. 4x2 + 12x – 9***

***Students need to realise the possible combinations which produce 4x2 and 9:***

***(4x 9)(x 1) middle term comes from 9x and 4x ( ±13x or ±5x)***

***(4x 1)(x 9) middle term comes from 36x and x ( ±37x or ±35x)***

***(4x 3)(x 3) middle term comes from 12x and 3x ( ±15x or ±9x)***

***(2x 9)(2x 1) middle term comes from 18x and 2x ( ±20x or ±16x)***

***(2x 3)(2x 3) middle term comes from 6x and 6x ( ±12x or 0x)***

The question from the 2013 paper is like the above:

***6x2 – 11x – 10***

***Possibilities:***

***(6x 10)(x 1) middle term comes from 6x and 10x***

***(6x 1)(x 10) middle term comes from 60x and 1x***

***(6x 5)(x 2) middle term comes from 5x and 12x***

***(6x 2)(x 5) middle term comes from 2x and 30x***

***(3x 10)(2x 1) middle term comes from 20x and 3x***

***(3x 1)(2x 10) middle term comes from 2x and 30x***

***(3x 5)(2x 2) middle term comes from 10x and 6x***

***(3x 2)(2x 5) middle term comes from 4x and 15x***