Examples using the table method.

Problems are from 7.4: Factor Trinomials using the Table Method

11.

$2x^2 + 5x - 7$

$a = 2, b = 5, c = -7$

$= 2x^2 + 7x - 2x - 7$

$= x(2x + 7) - 1(2x + 7)$

$= (2x + 7)(x - 1)$

| Factors | Sum |
|---|---|
| $ac = (2)(-7)$ | $b = 5$ |
| $= -14$ | |
| $1, -14$ | $-13$ |
| $2, -7$ | $-5$ |
| $7, -2$ | $5$ |

Comments on 11. The product is negative which means one factor is positive and the other is negative. We try different factor pairs and it is important to note that all of these factor pairs do multiply and have a product of $-14$ which is the result of multiplying the values together for $ac$. We finally obtain the sum of 5.

26.

$6r^2 + 7r - 20$

$a = 6, b = 7, c = -20$

$= 6r^2 - 8r + 15r - 20$

$= 2r(3r - 4) + 5(3r - 4)$

$= (3r - 4)(2r + 5)$

| Factors | Sum |
|---|---|
| $ac = (6)(-20)$ | $b = 7$ |
| $= -120$ | |
| $-1, 120$ | $120$ |
| $-2, 60$ | $58$ |
| $-3, 40$ | $37$ |
| $-4, 30$ | $26$ |
| $-5, 24$ | $19$ |
| $-6, 20$ | $14$ |
| $-8, 15$ | $7$ |

Comments on 26. The product is negative which means one factor is positive and the other is negative. We try different factor pairs and it is important to note that all of these factor pairs do multiply and have a product of $-120$ which is the result of multiplying the values together for $ac$. We finally obtain the sum of 7.

If you see the factor combination very quickly, you do not have to write out all of the factor combinations. Be careful because sometimes people do not try enough factor combinations.