

Core skills worksheet  
**Factorising trinomials**

1. Factorise each expression. In these questions, the  $x^2$  term always has a coefficient of 1.

(a)  $x^2 + 3x + 2$

(b)  $x^2 + 5x + 6$

(c)  $x^2 + 6x + 8$

(d)  $x^2 + 9x + 8$

(e)  $x^2 - 8x + 15$

(f)  $x^2 - 7x + 6$

(g)  $x^2 - 5x + 6$

(h)  $x^2 - 7x + 12$

(i)  $x^2 + 3x - 10$

(j)  $x^2 + 5x - 14$

(k)  $x^2 + 5x - 24$

(l)  $x^2 + 3x - 28$

(m)  $x^2 - 8x - 9$

(n)  $x^2 - 4x - 12$

(o)  $x^2 - x - 12$

(p)  $x^2 - 5x - 24$

(q)  $x^2 + 6x + 9$

(r)  $x^2 - 10x + 25$

(s)  $x^2 - 9x - 10$

(t)  $x^2 - 4x - 21$

(u)  $x^2 - 12x + 27$

(v)  $x^2 + x - 30$

(w)  $x^2 + 9x - 36$

(x)  $x^2 - 2x - 24$

2. Factorise each expression. The coefficient of the  $x^2$  term isn't 1 but all of the signs are +.

(a)  $2x^2 + 5x + 3$

(b)  $3x^2 + 7x + 2$

(c)  $2x^2 + 7x + 5$

(d)  $2x^2 + 7x + 3$

(e)  $3x^2 + 11x + 6$

(f)  $5x^2 + 9x + 4$

(g)  $2x^2 + 13x + 15$

(h)  $4x^2 + 9x + 2$

(i)  $6x^2 + 7x + 2$

(j)  $15x^2 + 28x + 5$

(k)  $35x^2 + 22x + 3$

(l)  $6x^2 + 23x + 7$

(m)  $4x^2 + 21x + 5$

(n)  $4x^2 + 8x + 3$

(o)  $9x^2 + 18x + 8$

(p)  $12x^2 + 16x + 5$

(q)  $10x^2 + 31x + 3$

(r)  $20x^2 + 9x + 1$

(s)  $4x^2 + 12x + 9$

(t)  $6x^2 + 23x + 21$

(u)  $15x^2 + 26x + 8$

(v)  $9x^2 + 24x + 16$

(w)  $8x^2 + 38x + 9$

(x)  $10x^2 + 17x + 6$

3. Factorise each expression. The coefficient of  $x^2$  isn't 1 and there is a mixture of + and - signs.

(a)  $2x^2 + x - 3$

(b)  $3x^2 - 10x + 8$

(c)  $5x^2 - 23x - 10$

(d)  $2x^2 + 3x - 20$

(e)  $4x^2 - 8x + 3$

(f)  $8x^2 + 2x - 3$

(g)  $9x^2 - 30x + 25$

(h)  $6x^2 - 5x + 1$

(i)  $15x^2 - 16x + 4$

(j)  $6x^2 - 11x - 7$

(k)  $8x^2 - 6x - 5$

(l)  $5x^2 - 36x + 36$

(m)  $12x^2 + 7x - 12$

(n)  $2x^2 + 7x - 72$

(o)  $4x^2 - x - 14$

(p)  $24x^2 + x - 10$

(q)  $6x^2 - 35x - 6$

(r)  $15x^2 + 4x - 4$

(s)  $12x^2 + 16x - 3$

(t)  $8x^2 - 26x + 15$

(u)  $2x^2 + 7x - 49$

(v)  $6x^2 - 19x + 15$

(w)  $12x^2 - 52x - 9$

(x)  $9x^2 - 27x + 8$