Ex1

Factorise the following quadratic expression into double brackets.
$$x^2 + 9x + 18$$

Ex2

Factorise the following quadratic expression into double brackets.
$$x^2 + 10x + 24$$

Q1

Fill in the missing boxes to make the following true.

[a] $x^2 + \boxed{}x + 16 = (x + 2)(x + 8)$

[b] $x^2 + \boxed{}x + 12 = (x + 6)(x + 2)$

[c] $x^2 + 11x + \boxed{} = (x + 5)(x + 6)$

[d] $x^2 + 13x + \boxed{} = (x + 4)(x + 9)$

[e] $x^2 + 9x + 8 = (x + 1)(x + \boxed{})$

[f] $x^2 + 3x + 2 = (x + \boxed{})(x + 1)$

[g] $x^2 + 10x + 21 = (x + \boxed{})(x + \boxed{})$

Q2

Factorise the following quadratic expressions into double brackets.

[a] $x^2 + 4x + 3$

[b] $x^2 + 7x + 10$

[c] $x^2 + 9x + 20$

[d] $x^2 + 12x + 36$

[e] $x^2 + 10x + 25$

[f] $x^2 + 8x + 7$

[g] $x^2 + 13x + 22$

Ex3
Factorise the following quadratic expression into double brackets.
$$x^2 - 11x + 10$$

Ex4
Factorise the following quadratic expression into double brackets.
$$x^2 - 5x + 6$$

Q3 Factorise the following quadratic expressions into double brackets.

[a] $x^2 - 4x + 16$

[b] $x^2 - 14x + 40$

[c] $x^2 - 6x + 8$

[d] $x^2 - 14x + 33$

[e] $x^2 - 8x + 15$

[f] $x^2 - 9x + 8$

[g] $x^2 - 11x + 18$

Q4 Factorise the following quadratic expressions into double brackets.

[a] $x^2 - 5x - 4x + 14$

[b] $x(x - 12) + 20$

[c] $x^2 - 3(4x - 9)$

[d] $x(x - 14) + 4(x + 4)$

[e] $x^2 + 2(24 - 7x)$

Q5 Factorise the following quadratic expressions into double brackets.

[a] $x^2 - 5x + 6$

[b] $x^2 + 14x + 48$

[c] $x^2 - 8x + 12$

[d] $x^2 + 19x + 88$

[e] $x^2 - 21x + 110$

[f] $x^2 + 2x + 1$

[g] $x^2 + 14x + 24$

[h] $x^2 - 11x + 18$

[i] $x^2 - 13x + 40$

[j] $x^2 - 17x + 42$

[k] $x^2 + 4x + 16$

[l] $x^2 - 16x + 15$

[m] $x^2 + 20x + 75$

[n] $x^2 + 23x + 120$

[o] $x^2 - 20x + 96$

[p] $x^2 + 17x + 52$

Q6 Write the letter of the quadratic expression next to its factorised double bracket.

[a] $x^2 - 11x + 30$

[b] $x^2 + 18x + 77$

[c] $x^2 + 19x + 60$

[d] $x^2 - 13x + 30$

[e] $x^2 - 19x + 90$

[f] $x^2 + 19x + 84$

[g] $x^2 + 25x + 150$

Double brackets	Letter
$(x + 10)(x + 15)$	
$(x + 9)(x + 10)$	
$(x + 7)(x + 12)$	
$(x + 5)(x + 6)$	
$(x + 7)(x + 11)$	
$(x + 4)(x + 15)$	
$(x + 3)(x + 10)$	

Q7 Fill in the missing boxes to make the following true.

[a] $x^2 + 10x + 6x + \boxed{} = (x + 4)(x + 12)$

[b] $x^2 + \boxed{}(3x + 4) = (x + 2)(x + 4)$

[c] $x(x - \boxed{}) + 15 = (x - 3)(x - 5)$

[d] $x^2 + \boxed{}(9 + 2x) = (x + 2)(x + 4)$

[e] $x^2 - 5(\boxed{}x + 10) = (x - 5)(x - 10)$

[f] $x^2 - 3(7x + 30) = (x - 6)(x - \boxed{})$

[g] $x(x + 16) + 60 = (x\boxed{})(x\boxed{})$

Ex1

Factorise the following quadratic expression into double brackets.
$$x^2 - 11x + 10$$

Ex2

Factorise the following quadratic expression into double brackets.
$$x^2 - 5x + 6$$

Ex3

Factorise the following quadratic expression into double brackets.
$$x^2 + 4x - 60$$

Q1

Fill in the missing boxes to make the following true.

[a] $x^2 + \boxed{}x - 18 = (x + 6)(x - 3)$

[b] $x^2 + \boxed{}x - 8 = (x + 4)(x - 2)$

[c] $x^2 + \boxed{}x - \boxed{} = (x - 1)(x + 9)$

[d] $x^2 + \boxed{}x\,\boxed{} = (x + 8)(x - 4)$

[e] $x^2 + 5x - 66 = (x + \boxed{})(x - 6)$

[f] $x^2 + 5x - 6 = (x + \boxed{})(x - 1)$

[g] $x^2 + 4x - 21 = (x\,\boxed{})(x\,\boxed{})$

Q2 Factorise the following quadratic expressions into double brackets.

[a] $x^2 + 2x - 3$

[b] $x^2 + 2x - 15$

[c] $x^2 + 2x - 35$

[d] $x^2 + 5x - 14$

[e] $x^2 + 3x - 4$

[f] $x^2 + 4x - 12$

[g] $x^2 + x - 20$

[h] $x^2 + x - 12$

[i] $x^2 + x - 90$

[j] $x^2 + 2x - 99$

[k] $x^2 + 6x - 55$

[l] $x^2 + 9x - 90$

[m] $x^2 + 5x - 50$

[n] $x^2 + 8x - 48$

[o] $x^2 + 12x - 28$

[p] $x^2 + 3x - 180$

Ex4
Factorise the following quadratic expression into double brackets.
$$x^2 - 2x - 80$$

Ex5
Factorise the following quadratic expression into double brackets.
$$x^2 - 7x - 8$$

Q3 Factorise the following quadratic expressions into double brackets.

[a] $x^2 - 6x - 16$

[b] $x^2 - 5x - 84$

[c] $x^2 - 6x - 72$

[d] $x^2 - 8x - 33$

[e] $x^2 - 2x - 15$

[f] $x^2 - 4x - 21$

[g] $x^2 - 8x - 9$

Q4 Factorise the following quadratic expressions into double brackets.

[a] $x^2 - 20x + 8x - 28$

[b] $x(x - 1) - 72$

[c] $x(x - 11) - 26$

[d] $x^2 - 4(x + 8)$

[e] $x^2 - 8(6 + x)$

Q5 Write the letter of the quadratic expression next to its factorised double bracket.

[a] $x^2 - 2x - 8$

[b] $x^2 - 4x - 45$

[c] $x^2 + 2x - 80$

[d] $x^2 - x - 6$

[e] $x^2 - 6x - 55$

[f] $x^2 + x - 20$

[g] $x^2 + 3x - 4$

Double brackets	Letter
$(x + 5)(x - 4)$	
$(x + 2)(x - 3)$	
$(x + 2)(x - 4)$	
$(x + 10)(x - 8)$	
$(x + 5)(x - 9)$	
$(x + 4)(x - 1)$	
$(x + 5)(x - 11)$	

Q6 Fill in the missing boxes to make the following true.

[a] $x^2 + x + 2x - \boxed{} = (x + 10)(x - 7)$

[b] $x^2 - \boxed{}(3x + 8) = (x + 2)(x - 8)$

[c] $x(x - \boxed{}) - 10 = (x + 2)(x - 5)$

[d] $x^2 - \boxed{}(24 - x) = (x + 12)(x - 8)$

[e] $x^2 - 5(\boxed{}x + 10) = (x - 5)(x - 10)$

[f] $x^2 + 4(x - 3) = (x + 6)(x - \boxed{})$

[g] $x(x + 9) - 70 = (x\boxed{})(x\boxed{})$

Q7 Factorise the following quadratic expressions into double brackets.

[a] $x^2 + 2x - 3$

[b] $x^2 - 2x - 3$

[c] $x^2 - x - 12$

[d] $x^2 + x - 12$

[e] $x^2 - 11x - 12$

[f] $x^2 + 11x - 12$

[g] $x^2 + 8x - 20$

[h] $x^2 - 8x - 20$

[i] $x^2 + 6x - 27$

[j] $x^2 - 2x - 35$

[k] $x^2 - 2x - 99$

[l] $x^2 + 10x - 150$

[m] $x^2 + 9x - 36$

[n] $x^2 - 9x - 52$

[o] $x^2 - 7x - 30$

[p] $x^2 + 8x - 105$

Ex1

Factorise the following quadratic expression into double brackets.
$$2x^2 + 5x + 3$$

Ex2

Factorise the following quadratic expression into double brackets.
$$3x^2 - 2x - 8$$

Ex3

Factorise the following quadratic expression into double brackets.
$$2x^2 + x - 21$$

Ex4

Factorise the following quadratic expression into double brackets.
$$5x^2 + 2x - 3$$

Q1 Factorise the following quadratic expressions into double brackets.

[a] $3x^2 + 10x + 7$

[b] $7x^2 + 12x - 4$

[c] $2x^2 - x - 3$

[d] $2x^2 - 5x - 3$

[e] $3x^2 - 4x - 15$

[f] $5x^2 - 6x + 1$

[g] $11x^2 + 12x + 1$

Q2 Write the letter of the quadratic expression next to its factorised double bracket.

[a] $2x^2 - x - 10$

[b] $5x^2 + 11x + 2$

[c] $3x^2 + x - 2$

[d] $2x^2 + 9x - 5$

[e] $5x^2 + 9x - 2$

[f] $3x^2 - 7x - 6$

[g] $3x^2 + 2x - 8$

Double brackets	Letter
$(x + 2)(5x + 1)$	
$(x + 2)(2x - 5)$	
$(3x + 2)(x - 3)$	
$(x + 2)(5x - 1)$	
$(x + 1)(3x - 2)$	
$(x + 2)(3x - 4)$	
$(x + 5)(2x - 1)$	

Ex5
Factorise the following quadratic expression into double brackets.
$$6x^2 - 5x - 6$$

Ex6
Factorise the following quadratic expression into double brackets.
$$9x^2 + 9x - 10$$

Q3 Factorise the following quadratic expressions into double brackets.

[a] $6x^2 - 13x + 5$

[b] $12x^2 - 7x + 1$

[c] $9x^2 - 9x - 4$

[d] $6x^2 + 7x - 3$

[e] $9x^2 + 15x + 4$

[f] $12x^2 + 13x - 4$

[g] $2x^2 - 9x + 10$

[h] $3x^2 - 7x - 20$

[i] $12x^2 + 23x + 10$

[j] $15x^2 - 14x - 8$

[k] $20x^2 - 21x + 4$

[l] $15x^2 + 16x + 4$

[m] $8x^2 + 22x + 15$

[n] $6x^2 - 11x + 4$

[o] $4x^2 + 15x + 9$

[p] $3x^2 + 20x + 25$

Q4
Factorise the following quadratic expression into double brackets.

[a] $4(3x^2 + 4x) - 3$

[b] $4x(x + 1) - 15$

[c] $4(3x^2 - 7) + 5x$

[d] $9x(2x - 1) - 5$

[e] $20x^2 + 9(3x + 1)$

Q5
Fill in the missing boxes to make the following true.

[a] $6x^2 - x - \boxed{} = (2x + 1)(3x - 2)$

[b] $x^2 - \boxed{} - 2 = (3x + 1)(3x - 2)$

[c] $20x^2 - 11x - 3 = (\boxed{}x - 3)(5x + 1)$

[d] $12x^2 + 28x - 5 = (6x - 1)(\boxed{}x + 5)$

[e] $\boxed{}x^2 + 23x - 12 = (2x + 3)(5x + 4)$

[f] $9x^2 + 15x - 14 = (3x - 2)(3x\boxed{})$

[g] $6x^2\boxed{}x - 3 = (7x + 1)(2x - 3)$

Factorising Quadratics

1) Factorise

    (a) $x^2 + 5x + 6$ (b) $x^2 + 6x + 9$ (c) $x^2 + 8x + 7$

    (d) $x^2 + 8x + 15$ (e) $x^2 + 4x + 3$ (f) $x^2 + 12x + 20$

2) Factorise

    (a) $x^2 - 6x + 5$ (b) $x^2 - 2x + 1$ (c) $x^2 - 7x + 10$

    (d) $x^2 - 2x + 1$ (e) $x^2 - 8x + 15$ (f) $x^2 - 11x + 18$

3) Factorise

    (a) $x^2 - x - 6$ (b) $x^2 - 2x - 15$ (c) $x^2 - 3x - 18$

    (d) $x^2 - 2x - 24$ (e) $x^2 - 8x - 20$ (f) $x^2 - 6x - 5$

4) Factorise

    (a) $x^2 + x - 6$ (b) $x^2 + x - 30$ (c) $x^2 + 3x - 40$

    (d) $x^2 + x - 20$ (e) $x^2 + 7x - 18$ (f) $x^2 + 4x - 60$

5) Factorise

    (a) $2x^2 + 5x + 2$ (b) $2x^2 - 3x + 1$ (c) $3x^2 + 5x + 2$

    (d) $2x^2 - 3x - 2$ (e) $3x^2 + 8x + 4$ (f) $5x^2 - 17x + 6$

Factorising Quadratics

1) Factorise

(a) $x^2 + 5x + 6$
$(x + 2)(x + 3)$

(b) $x^2 + 6x + 9$
$(x + 3)(x + 3)$

(c) $x^2 + 8x + 7$
$(x + 1)(x + 7)$

(d) $x^2 + 8x + 15$
$(x + 3)(x + 5)$

(e) $x^2 + 4x + 3$
$(x + 1)(x + 3)$

(f) $x^2 + 12x + 20$
$(x + 2)(x + 10)$

2) Factorise

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

(b) $x^2 - 2x + 1$
$(x - 1)(x - 1)$

(c) $x^2 - 7x + 10$
$(x - 2)(x - 5)$

(d) $x^2 - 8x + 12$
$(x - 2)(x - 6)$

(e) $x^2 - 8x + 15$
$(x - 3)(x - 5)$

(f) $x^2 - 11x + 18$
$(x - 2)(x - 9)$

3) Factorise

(a) $x^2 - x - 6$
$(x + 2)(x - 3)$

(b) $x^2 - 2x - 15$
$(x + 3)(x - 5)$

(c) $x^2 - 3x - 18$
$(x + 3)(x - 6)$

(d) $x^2 - 2x - 24$
$(x + 4)(x - 6)$

(e) $x^2 - 8x - 20$
$(x + 2)(x - 10)$

(f) $x^2 - 6x - 7$
$(x + 1)(x - 7)$

4) Factorise

(a) $x^2 + x - 6$
$(x + 3)(x - 2)$

(b) $x^2 + x - 30$
$(x + 6)(x - 5)$

(c) $x^2 + 3x - 40$
$(x + 8)(x - 5)$

(d) $x^2 + x - 20$
$(x + 5)(x - 4)$

(e) $x^2 + 7x - 18$
$(x + 9)(x - 2)$

(f) $x^2 + 4x - 60$
$(x + 10)(x - 6)$

5) Factorise

(a) $2x^2 + 5x + 2$
$(2x + 1)(x + 2)$

(b) $2x^2 - 3x + 1$
$(2x - 1)(x - 1)$

(c) $3x^2 + 5x + 2$
$(3x + 2)(x + 1)$

(d) $2x^2 - 3x - 2$
$(2x + 1)(x - 2)$

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

(f) $5x^2 - 17x + 6$
$(5x - 2)(x - 3)$