

IGCSE · Cambridge (CIE) · Maths





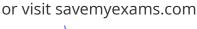
Non-Calculator Questions

# Expanding & Factorising Brackets

Expanding & Simplifying Single Brackets / Expanding Double Brackets / Expanding Triple Brackets / Factorising Out Terms / Factorising by Grouping / Factorising Simple Quadratics / Factorising Harder Quadratics / Difference of Two Squares / Deciding the Factorisation Method

Total Marks	/66
Very Hard (5 questions)	/13
Hard (12 questions)	/27
Medium (8 questions)	/17
Easy (9 questions)	/9

Scan here to return to the course







## **Easy Questions**



(1 mark)

**2** Expand.

$$a(a^3 + 3)$$

(1 mark)

**3** Factorise.

$$12x + 15$$

(1 mark)

**4** Factorise 5y - 6py.

(1 mark)

**5** Factorise  $2x^2 - x$ .

(1 mark)

**6** Factorise  $7k^2 - 15k$ .

(1 mark)

**7** Factorise.

$$y - 2y^2$$

(1 mark)

8 Expand.

$$7(x - 8)$$

(1 mark)

**9** Factorise.

$$w + w^{3}$$

(1 mark)

#### **Medium Questions**

**1** Factorise completely  $21a^2 + 28ab$ .

(2 marks)

2 Expand and simplify.

$$(m-3)(m+2)$$

(2 marks)

**3** Expand and simplify (x+3)(x+5).

(2 marks)

4 Expand and simplify.

$$(3x-7)(2x+9)$$

(2 marks)

**5** Expand.

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

**6** Expand and simplify.

$$6(2y-3)-5(y+1)$$

(2 marks)

**7** Expand the brackets and simplify.

$$(2p+3)(3p-2)$$

(3 marks)

**8** Factorise completely  $15k^2m - 20m^4$ .

#### **Hard Questions**

1 Expand and simplify.

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

(3 marks)

**2** Factorise  $6x^2 + 7x - 20$ .

(2 marks)

**3** Factorise 3x + 8y - 6ax - 16ay.

(2 marks)

4  $x^2 - 12x + a = (x + b)^2$ Find the value of a and the value of b.

*a* = .....

*b* = ..... (2 marks)

**5** Factorise.

$$xy - 2x + 3y - 6$$

**6** Expand and simplify (x + 1)(x + 2) + 2x(x - 3).

(3 marks)

**7 (a)** Factorise  $p^2 - q^2$ .

(1 mark)

**(b)**  $p^2 - q^2 = 7$  and p - q = 2.

Find the value of p + q.

(2 marks)

**8** Complete this statement with an expression in terms of m.

$$18m^3 + 9m^2 + 14m + 7 = (9m^2 + 7)(\dots)$$

(2 marks)

9 Factorise.

$$xy + 5y + 2x + 10$$

(2 marks)

**10** Factorise completely.

$$px + py - x - y$$

(2 marks)

**11** Factorise completely.

$$xy+2y+3x+6$$

(2 marks)

**12** Factorise completely.

$$2a+4b-ax-2bx$$

### **Very Hard Questions**

**1** Factorise completely  $20x^2 - 45y^2$ .

(3 marks)

**2** Expand and simplify (x+3)(x-5)(3x-1).

(3 marks)

**3** Factorise.

$$18y - 3ay + 12x - 2ax$$

(2 marks)

4 Factorise.

$$3x^2 - 48y^2$$

(3 marks)

**5** Factorise  $12(m+p) + 8(m+p)^2$ .

