

IGCSE · Cambridge (CIE) · Maths





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 | /52 |
|-------------------------|-----|
| Very Hard (6 questions) | /20 |
| Hard (6 questions) | /16 |
| Medium (5 questions) | /11 |
| Easy (3 questions) | /5 |

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Easy Questions

1 Factorise completely.

$$4 - 8x$$

(1 mark)

2 Factorise completely

$$3x^2 - 12xy$$

(2 marks)

3 Expand and simplify (x+7)(x-3).

(2 marks)

Medium Questions

1 Factorise completely.

$$3a^2b - ab^2$$

(2 marks)

2 Factorise completely.

i)
$$6y^2 - 15xy$$

[2]

ii)
$$y^2 - 9x^2$$

[2]

(4 marks)

3 Factorise $x^2 - 25$.

(1 mark)

4 Expand and simplify 5(p+3) - 2(1-2p)

(2 marks)

5 Expand and simplify (p+9)(p-4)

(2 marks)



Hard Questions

1 Factorise

$$2x + 6 - 3xy - 9y$$

(2 marks)

2 Factorise $24 + 5x - x^2$.

(2 marks)

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

(2 marks)

4 Factorise $5m^2 - 20p^4$.

(3 marks)

5 Factorise $12ab^3 + 18a^3b^2$.

(2 marks)

6 Factorise.

i)
$$2mn + m^2 - 6n - 3m$$

[2]

ii)
$$4y^2 - 81$$

[1]

iii)
$$t^2 - 6t + 8$$

[2]

(5 marks)

Very Hard Questions

1 Expand and simplify.

$$(x-2)(x+5)(2x-1)$$

(3 marks)

2 Write
$$(x + 1)(x - 3)^2$$
 in the form $ax^3 + bx^2 + cx + d$.

(3 marks)

3 Expand and simplify.

$$(y+3)(y-4)(2y-1)$$

(3 marks)

4 Factorise completely.

i)
$$15p^2q^2 - 25q^3$$

[2]

ii)
$$4fg + 6gh + 10fk + 15hk$$

[2]

iii)
$$81k^2 - m^2$$

[2]

(6 marks)

5 Factorise
$$3x^2 + 11x - 20$$

(2 marks)

6 Factorise completely.

$$2t^2 - 98m^2$$

(3 marks)