

Surname	
Other Names	
Candidate's Signature	

GCSE 9 - 1 Questions

Factorise and Expand Quadratics 2

Calculator Not Allowed

INSTRUCTIONS TO CANDIDATES

Write your name in the space provided.

Write your answers in the spaces provided in this question paper.

Answer ALL questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

You should have a ruler, compass and protractor where required.

Total Marks :

1) Expand and simplify

$$(x - 6)(x + 4)$$

Answer _____ [2]

2)(a) Factorise $x^2 - 25$

Answer _____ [1]

(b) Simplify

$$\frac{x^2 - 25}{3x^2 + 11x - 20}$$

Answer _____ [3]

3) Factorise $18x^2 - 2y^2$

Answer _____ [3]

4) Factorise $xy + 4y + 5x + 20$

Answer _____ [2]

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

Answer _____ [3]

(b) Hence simplify $\frac{3x^2 - 5xy - 2y^2}{9x^2 + 6xy + y^2}$

Answer _____ [3]

6) (a) Expand and simplify

$$(5a - d)(a + 2d)$$

Answer _____ [3]

(b) Factorise

$$6cd - 7c - 6d + 7$$

Answer _____ [2]

7) Factorise completely $3a^2 - 27b^2$

Answer _____ [3]

8) Factorise $4x^2 - 25y^2$

Answer _____ [2]

9) Simplify $\frac{x^2 + 3xy - 5x - 15y}{2x^2 - 10x}$ fully.

Answer _____ [4]

10) Show that $(2x + 7)(x - 4) + x(x + 1) + 4 \equiv 3(x^2 - 8)$.

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[3]

11) Show that $(4x - 1)(6x + 5) - (8x - 1)(3x + 5)$ is identical to $-23x$.

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[4]

12) Factorise each of the following expressions.

(a) $6x^3 - 12x^2$

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[2]

(b) $x^2 - x - 42$

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[2]

(c) $15x^2 + 31x + 14$

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