Edexcel GCSE
Mathematics (Linear) – 1MA0

ALGEBRA: EXPAND & FACTORISE

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to
spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication
will be assessed – you should take particular care on these questions with your spelling, punctuation
and grammar, as well as the clarity of expression.

Advice

Read each question carefully before you start to answer it.
Keep an eye on the time.
Try to answer every question.
Check your answers if you have time at the end.

1. (a) Factorise $8x - 20$

....
(1)

(b) Factorise fully $10x^2 - 15xy$

....
(2)
(3 marks)

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2. (a) Factorise $3x + 12$

....
(1)

(b) Factorise fully $2x^2 - 4xy$

....
(2)

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

....
(2)
(5 marks)

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3. (a) Expand $3(2y - 5)$

....
(1)

(b) Factorise completely $8x^2 + 4xy$

....
(2)
(3 marks)

4. (a)   Expand $4(3x + 5)$

....
(1)

   (b)   Expand and simplify $3(x - 4) - 2(x + 5)$

....
(2)
(3 marks)

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5. (a)   Factorise $x^2 + 7x$

....
(2)

   (*b*)   Expand $x(x + 2)$

....
(2)

   (*c*)   Factorise completely $2y^2 - 4y$

....
(2)
(6 marks)

---

6. (a) Expand $3(4x + y)$

(2)

....
   (b)   Expand $5p(p - 3)$

(2)

....
   (c)   Factorise completely $8y^2 - 24xy$

....
(2)
(6 marks)

7. (a) Expand and simplify $3(x + 4) + 2(5x - 1)$

....
(2)

(b) Factorise completely $6y^2 - 9xy$

....
(2)

(4 marks)

8. (a) Factorise fully $6y^2 + 12y$

(2)

....

(b) Factorise $5x - 10$

....
(1)

(c) Factorise fully $2p^2 - 4pq$

....
(2)

(5 marks)

9. (a) Expand and simplify $3(x + 5) + 2(5x - 6)$

....
(2)

(b) Factorise $5x + 10$

....
(1)

(c) Factorise $x^2 - 7x$

....
(1)

(4 marks)

10. (a)   Expand $x(x+2)$

....
(2)

    (b)   Factorise $15x - 10$

....
(2)

    (c)   Expand and simplify $2(x - y) - 3(x - 2y)$

....
(2)
(6 marks)

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11. (a)   Factorise $4x + 10$

(1)

....

    (b)   Factorise fully $6y^2 + 12y$

(2)

....

    (c)   Factorise $4 + 6x$

....
(2)
(5 marks)

---

12.   (a)   Expand $3(2y - 5)$

....
(1)

    (b)   Factorise completely $8x^2 + 4xy$

....
(2)

    (c)   Factorise $4x + 10y$

....
(2)
(5 marks)

13. (a) Expand $3(x + 4)$

....
(1)

     (b)   Expand $x(x^2 + 2)$

....
(2)

     (c)   Factorise $x^2 - 6x$

....
(1)

(4 marks)

14. (a) Factorise $p^2 + p$

....
(1)

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

....
(1)

     (c)   Expand and simplify $4(x - 3) - 2(1 - x)$

....
(2)

(4 marks)

15. (a)   Factorise $4x + 10y$

....
(1)

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

....
(1)

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

....
(2)

(4 marks)

16. (a) Expand $5(2y - 3)$

....
(1)

(b) Expand the brackets $p(q - p^2)$

....
(1)

(c) Expand and simplify $5(3p + 2) - 2(5p - 3)$

....
(2)
(4 marks)

17. (a) Expand $3(2g - 1)$

....
(1)

(b) Expand $2d(d + 3)$

....
(2)

(c) Factorise $p^2 + 6p$

....
(2)
(5 marks)

18. (a) Multiply out $7(n - 3)$

....
(1)

(b) Expand $5(2y - 3)$

....
(1)

(c) Expand and simplify

$2(3x + 4) - 3(4x - 5)$

....
(2)
(4 marks)

19. (a) Expand $\qquad y(y^3 + 2y)$

....

(2)

(b) Factorise completely $\qquad 6x^2 - 9xy$

....

(2)

(c) Expand and simplify $\qquad 5(3p + 2) - 2(5p - 3)$

....

(2)

(6 marks)

20. Expand the brackets

(i) $\qquad 4(2x - 3)$

....

(2)

(ii) $\qquad p(q - p^2)$

....

(2)

(ii) $\qquad t(3t^2 + 4)$

....

(2)

(6 marks)

21. (a) Factorise $\qquad 3t - 12$

....

(2)

(b) Factorise $\qquad y^2 + y$

....

(1)

(c) Expand and simplify $\qquad 3(2x - 1) - 2(2x - 3)$

.

(2)

(6 marks)