EXPANDING DOUBLE BRACKETS

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1.

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

> $x^2 + 5x + 6$

2.

$(x + 4)(x + 1)$

> $x^2 + 5x + 4$

3.

$(x + 5)(x + 2)$

> $x^2 + 7x + 10$

4.

$(x + 3)(x + 7)$

> $x^2 + 10x + 21$

5.

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

> $x^2 + 10x + 24$

6.

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

> $x^2 - 5x + 6$

7.

$(x - 4)(x - 1)$

> $x^2 - 5x + 4$

8.

$(x - 5)(x - 2)$

> $x^2 - 7x + 10$

9.

$(x - 3)(x - 7)$

> $x^2 - 10x + 21$

10.

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

> $x^2 - 10x + 24$

11.

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

> $x^2 + x - 6$

12.

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

> $x^2 + 2x - 15$

13.

$(x + 7)(x - 4)$

> $x^2 + 3x - 28$

14.

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

> $x^2 - x - 6$

15.

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

> $x^2 - 2x - 15$

16.

$(x - 7)(x + 4)$

> $x^2 - 3x - 28$

17.

$(2x + 1)(x + 3)$

> $2x^2 + 7x + 3$

18.

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

> $3x^2 + 14x + 8$

19.

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

> $8x^2 + 10x + 3$

20.

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

> $15x^2 + 26x + 8$

21.

$(2x - 1)(x - 3)$

> $2x^2 - 7x + 3$

22.

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

> $3x^2 - 14x + 8$

23.

$(4x - 3)(2x - 1)$

> $8x^2 - 10x + 3$

24.

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

> $15x^2 - 26x + 8$

25.

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

> $2x^2 - 5x - 3$

26.

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

> $3x^2 - 10x - 8$

27.

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

> $8x^2 + 2x - 3$

28.

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

> $15x^2 - 14x - 8$

29.

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

> $2x^2 + 5x - 3$

30.

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

> $3x^2 + 10x - 8$

31.

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

> $8x^2 - 2x - 3$

32.

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

> $15x^2 + 14x - 8$

33.

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

> $9x^2 + 12x + 4$

34.

$(4x - 1)(4x - 1)$

> $16x^2 - 8x + 1$

35.

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

> $4x^2 - 25$

36.

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

> $9x^2 - 16$

37.

$(5x + 7)(5x - 7)$

> $25x^2 - 49$

38.

$(2x + 3y)(x + 2y)$

> $2x^2 + 7xy + 6y^2$

39.

$(3x - 2y)(2x - y)$

> $6x^2 - 7xy + 2y^2$

40.

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

> $12x^2 - 5xy - 2y^2$

MASTER QUESTIONS

M1.

A rectangle has length $(x + 5)$ cm and width $(x + 3)$ cm. Find the expanded expression for its area.

> $x^2 + 8x + 15$ cm^2

M2.

The area of a square garden is given by $(x + 4)^2$. Expand this expression.

> $x^2 + 8x + 16$

M3.

A rectangular field has dimensions $(2x + 3)$ m by $(x - 2)$ m. Calculate its area in expanded form.

> $2x^2 - x - 6$ m^2

M4.

The product of two consecutive numbers can be written as $(x)(x + 1)$. Expand this expression.

> $x^2 + x$

M5.

A box has length (3x + 2) cm, width (2x - 1) cm, and height (x + 4) cm. Find the expanded expression for its volume.

$6x^3 + 25x^2 + 18x - 8$ cm^3