

Expanding Triple Brackets *fluency*

ANSWERS

Expand and simplify

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

$$x^3 + 6x^2 + 11x + 6$$

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

$$x^3 + 5x^2 + 8x + 4$$

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

$$x^3 + 8x^2 + 17x + 10$$

2 $(x+1)(x+4)(x+5)$

$$x^3 + 10x^2 + 29x + 20$$

4 $(x+3)(x+1)(x+6)$

$$x^3 + 10x^2 + 27x + 18$$

6 $(x+2)(x+4)(x+3)$

$$x^3 + 9x^2 + 26x + 24$$

Expand and simplify

7 $(x-1)(x+2)(x+3)$

$$x^3 + 4x^2 + x - 6$$

9 $(x-3)(x-1)(x+2)$

$$x^3 - 2x^2 - 5x + 6$$

11 $(x-2)(x-3)(x-4)$

$$x^3 - 9x^2 + 26x - 24$$

8 $(x+4)(x-2)(x+1)$

$$x^3 + 3x^2 - 6x - 8$$

10 $(x-5)(x+2)(x-1)$

$$x^3 - 4x^2 - 7x + 10$$

12 $(x+6)(x-1)(x-2)$

$$x^3 + 3x^2 - 16x + 12$$

Expand and simplify

13 $(x+2)^2(x+1)$

$$x^3 + 5x^2 + 8x + 4$$

15 $(x+1)^3$

$$x^3 + 3x^2 + 3x + 1$$

17 $(x+4)(x-4)(x+1)$

$$x^3 + x^2 - 16x - 16$$

14 $(x-3)^2(x+2)$

$$x^3 - 4x^2 - 3x + 18$$

16 $(x-2)^3$

$$x^3 - 6x^2 + 12x - 8$$

18 $(x-5)^2(x-1)$

$$x^3 - 11x^2 + 35x - 25$$

Expand and simplify

19 $(2x+1)(x+2)(x+3)$

$$2x^3 + 11x^2 + 17x + 6$$

21 $(x+4)(2x-3)(x-1)$

$$2x^3 + 3x^2 - 17x + 12$$

23 $(2x-1)^2(x+3)$

$$4x^3 + 8x^2 - 11x + 3$$

20 $(3x-1)(x+1)(x-2)$

$$3x^3 - 4x^2 - 5x + 2$$

22 $(2x+1)(2x-1)(x+5)$

$$4x^3 + 20x^2 - x - 5$$

24 $(3x+2)(x-4)(x+2)$

$$3x^3 - 4x^2 - 28x - 16$$

Expand and simplify

25 $(2x+1)(3x-2)(x+4)$

$$6x^3 + 23x^2 - 6x - 8$$

27 $(2x-1)(3x+1)(2x+5)$

$$12x^3 + 28x^2 - 7x - 5$$

29 $(x+y)(x-y)(x+2y)$

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

26 $(2x+3)^3$

$$8x^3 + 36x^2 + 54x + 27$$

28 $(1-x)(2+x)(3-x)$

$$x^3 - 2x^2 - 5x + 6$$

30 $(3x-2)(2x+1)^2$

$$12x^3 + 4x^2 - 5x - 2$$