

Expanding Triple Brackets

1

Expand and simplify
 $(x + 1)(x + 2)(x + 3)$

the first two brackets

$\times$	x	$+2$
x	x^2	$2x$
$+1$		

=

then multiply by the third

$\times$			

Answer _____

2

Expand and simplify
 $(x + 1)(x + 1)(x + 2)$

the first two brackets

$\times$	x	$+1$
x	x^2	
$+1$		

=

then multiply by the third

$\times$			

Answer _____

3

Expand and simplify
 $(x + 2)(x + 3)(x + 4)$

the first two brackets

$\times$	x	$+3$
x		
$+2$		

=

then multiply by the third

$\times$			

Answer _____

4

Expand and simplify
 $(x + 1)(x + 2)(x + 5)$

the first two brackets

$\times$	x	$+2$
x		
$+1$		

=

then multiply by the third

$\times$			

Answer _____

5

Expand and simplify
 $(x + 1)(x + 3)(x - 2)$

the first two brackets

$\times$	x	$+3$
x		
$+1$		

=

then multiply by the third

$\times$			

Answer _____

6

Expand and simplify
 $(x + 2)^2(x + 1)$

$\times$			

=

$\times$			

Answer _____

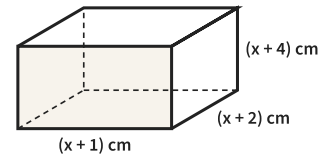
7

Expand and simplify
 $(x + 3)^3$

Answer _____

8

A cuboid has edges of $(x + 1)$ cm, $(x + 2)$ cm and $(x + 4)$ cm. Find an expression for its volume. Expand and simplify.



Answer _____

Expanding Triple Brackets *further practice*

9

Expand and simplify
 $(2x - 1)(x + 3)(x - 2)$

Answer _____

10

Expanding $(x + 2)(x - 1)(x + a)$ gives $x^3 + 4x^2 + x - 6$. Find the value of a .

Answer _____

11

Expand and simplify
 $(x + 2)(x - 2)(x + 5) - (x + 1)^3$

Answer _____

12

A cuboid planter is w cm wide. Its length is 3 cm more than its width and its height is 2 cm less than its width. Find an expression for its volume. Expand and simplify.

Answer _____

13

Find the coefficient of x^2 in the expansion of $(x + 3)(x - 5)(3x + 2)$

Answer _____

14

Expand and simplify $n(n - 1)(n + 1)$. Use your answer to work out $19 \times 20 \times 21$ without a calculator.

Answer _____

15

A cube has edges of $(x + 1)$ cm. A cuboid is x cm by $(x + 1)$ cm by $(x + 2)$ cm. Which has the bigger volume, and by how much?

Answer _____

16

Expand and simplify $(n + 1)^3 - n^3$. Use your answer to explain why the difference between two consecutive cube numbers is always odd.

Answer _____