Name:

Exam Style Questions

Expanding Three Brackets

Corbettmαths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 15

Answers and Video Solutions

1.   Expand and simplify $(x + 2)(x + 3)(x + 6)$

....

(4)

2.   Expand and simplify $(y + 1)(y - 2)(y + 3)$

....

(4)

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

....

(4)

4. Expand and simplify $(x - 4)(x - 5)(x + 12)$

....

(4)

5. Given that $(x + 2)(x + a)(x + 4) \equiv x^3 + 11x^2 + 38x + 40$

Circle the value of a

     3   5   8   10

(1)

6. Given that $(x + 5)(x - 4)(x + c) \equiv x^3 - 8x^2 - 29x + 180$

Circle the value of c

     9   −9   20   −20

(1)

7. Given that $(x + p)(x + 5)^2 \equiv x^3 + 17x^2 + 95x + 175$

Circle the value of p

     3   7   9   35

(1)

8. Given that $(x + 8)(x + 3)(x + a) \equiv x^3 + bx^2 + cx - 120$

Find the values of the integers a, b and c

a = ...

b = ...

c = ...

(3)

9. Expand and simplify $(2y + 3)(y + 1)(3y - 1)$

....

(4)

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

....

(4)

11.   Expand and simplify $(y + 3)(y + 1)^2$

....

(4)

12. Expand and simplify $(x + 2)^3$

....

(4)

13. Expand and simplify $(2w - 3)^3$

....

(4)

14. Shown below is a cube with side length x + 5 cm.
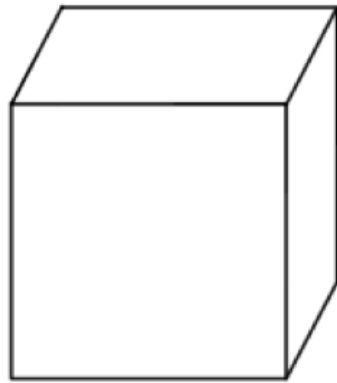
x + 5

Show that the volume of the cube is $x^3 + 15x^2 + 75x + 125$

(3)

15. Shown below is a cuboid.

$x + 1$

$x + 1$

$x + 9$
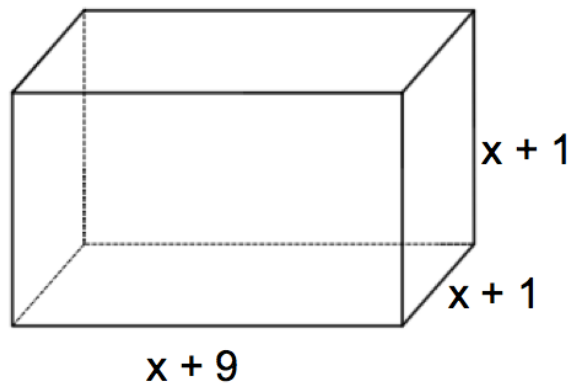
Form an expression for the volume of the cuboid.
Expand and simplify the expression.

....

(4)

16. Given that $(ax + 1)(x - 3)(x + b) \equiv 2x^3 - 3x^2 - 8x - 3$

Find the values of a and b

a = …………………………

b = …………………………

(3)

17. Expand and simplify $(x + 4)(x + 3y)^2$

....

(4)