



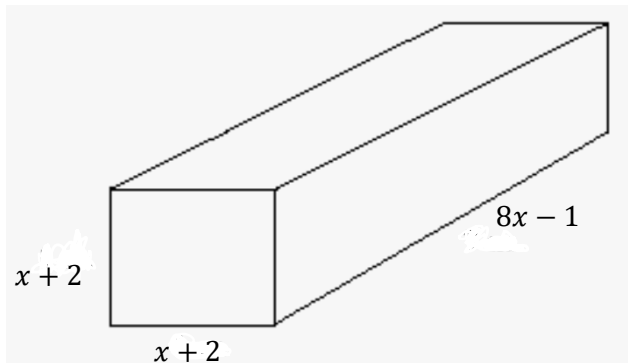
Expanding Triple Brackets Exam Practice

- Q1. Expand and simplify $(x + 2)(x + 5)(x + 1)$
(3 marks)
- Q2. Expand and simplify $(x + 7)(x - 2)(x + 3)$
(3 marks)
- Q3. Expand and simplify $(2x + 6)(x - 5)(x - 3)$
(3 marks)
- Q4. Expand and simplify $(3x - 1)(4 - x)(4 + x)$
(3 marks)
- Q5. Expand and simplify $(x + 2)(x - 5)^2$
(3 marks)
- Q6. Expand and simplify $2(x + 4)^2(2x - 3)$
(3 marks)
- Q7. Expand and simplify $(x - 3)(x + 3)(4x - 7)$
(3 marks)
- Q8. Expand and simplify $(x + 2)(x + 3)(x + 5) + (x + 1)(x + 4)$
(3 marks)
- Q9. Let a be a fixed number. Expand and simplify:
 $(x - a)(x + 3)(x + 2)$
(3 marks)
- Q10. Let b be a fixed number. Expand and simplify:
 $(x - 5)(2x + 5)(bx - 1)$
(3 marks)
- Q11. Show that $(3x + 2)(x + 3)(2x - 5) \equiv 6x^3 + 7x^2 - 43x - 30$
(2 marks)
- Q12. Show that $(2x - 7)(3x + 8)(2x - 9) \equiv 12x^3 - 64x^2 - 67x + 504$
(2 marks)



Applied Mixed Practice Problems

Q13. Here is a cuboid:



An expression for the cuboid is of the form $ax^3 + bx^2 + cx + d$ where a, b, c and d are integers. Find the values of a, b, c and d .

(2 marks)

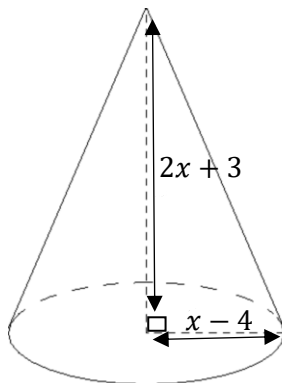
Q14. A student is asked to expand $(x - 5)(2x + 8)(3x - 9)$.

His answer is $6x^3 - 20x^2 - 102x + 360$.

He is unsure about the x^2 term, but knows from his teacher that the other terms are correct. Check this term, and correct it if necessary.

(3 marks)

Q15. A sweets manufacturer produces chocolates in the shape of a cone.



Find an expression for the volume of chocolate required to make 30 sweets, giving your answer in the form $ax^3 + bx^2 + cx + d$ where a, b, c and d are numbers to be found, in their exact form.

(4 marks)