

Name:

Date:

Expanding Triple Brackets

GCSE

Edexcel

Mathematics

Grade (9-1)

Mark

Score (%)

— 48

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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

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

.....
(Total for question 1 is 3 marks)

2 Expand and Simplify $(x - 3)(x + 2)(x - 5)$

.....
(Total for question 2 is 3 marks)

3 Expand and Simplify $(x + 3)(x + 4)(x + 1)$

Leave
blank

.....
(Total for question 3 is 3 marks)

4 Expand and Simplify $(x + 4)(x + 6)(4 - x)$

.....
(Total for question 4 is 3 marks)

5 Expand and Simplify $(x + 3)(x - 4)^2$

Leave
blank

.....
(Total for question 5 is 3 marks)

6 Expand and Simplify $(x + 7)^2(x + 6)$

.....
(Total for question 6 is 3 marks)

7 Expand and Simplify $(2x + 1)(x + 2)(x + 1)$

.....
(Total for question 7 is 3 marks)

8 Expand and Simplify $(2x + 3)(3x + 2)(x - 1)$

.....
(Total for question 8 is 3 marks)

9 Expand and Simplify $(2x + 1)(3x + 2)^2$

.....
(Total for question 9 is 3 marks)

10 Expand and Simplify $(2x - 3)(2 - 3x)^2$

.....
(Total for question 10 is 3 marks)

11 Expand and Simplify $(2x - y)(x + 5)(3x + 2y)$

.....
(Total for question 11 is 3 marks)

12 Expand and Simplify $(2x + 3)^3$

.....
(Total for question 12 is 3 marks)

13 Show that $(2x + 3)(5x + 2)(x - 5) = 10x^3 - 31x^2 - 89x - 30$

for all values of x .

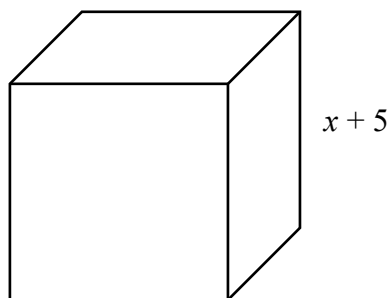
(Total for question 13 is 3 marks)

14 Show that $(2x - 1)(3x + 2)^2 = 18x^3 + 15x^2 - 4x - 4$

for all values of x .

(Total for question 14 is 3 marks)

- 15 Shown below is a cube with side length $x + 5$ cm.

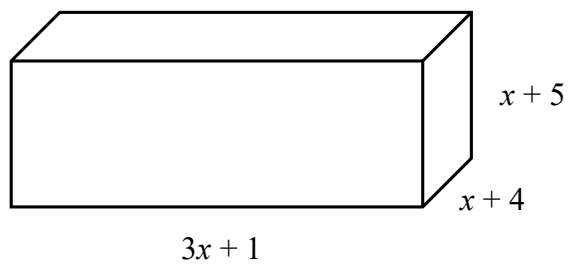


Show that the volume of the cube is $x^3 + 15x^2 + 75x + 125$.

.....
(Total for question 15 is 3 marks)



16 Shown below is a cuboid.



Form an expression for the volume of the cuboid.
Expand and simplify the expression.

.....
(Total for question 16 is 3 marks)