Name: _____

ASM Tuition Academy

Expanding Triple Brackets

Instructions:

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided
  - there may be more space than you need.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all you're working out.**

Information:

- The marks for each question are shown in brackets
  - use this as a guide as to how much time to spend on each question.

Advice:

- Read each question carefully before you start to answer it.
- Keep an eye on time.
- Try to answer every question.
- Check your answers if you have time at the end.

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

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(Total for question 1 is 3 marks)

2. **Expand and simplify** $(x - 2)(x + 4)(x - 3)$

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(Total for question 2 is 3 marks)

3. **Expand and simplify** $(x + 3)(x + 1)(x + 5)$

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(Total for question 3 is 3 marks)

4. **Expand and simplify** $(x + 3)(x + 6)(x - 2)$

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(Total for question 4 is 3 marks)

5. **Expand and simplify** $(x + 2)(x - 2)^2$

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(Total for question 5 is 3 marks)

6. **Expand and simplify** $(x + 4)(x - 3)(2x - 2)$

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(Total for question 6 is 3 marks)

7. **Expand and simplify**   **(2x + 1)(x + 4)(x + 2)**

(Total for question 7 is 3 marks)

8. **Expand and simplify**   **(2x − 2)(x − 4)(4x − 2)**

(Total for question 8 is 3 marks)

9. **Expand and simplify** $(x - 3)(3x + 1)(x + 6)$

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

11. Show that $(2x + 1)(4x + 3)(x - 4) = 8x^3 - 22x^2 - 37x - 12$ for all value of x.

12. Show that $(x - 2)(4x + 2)^2 = 4(4x^3 - 4x^2 - 7x - 2)$ for all value of x.

13. Show that $(3x - 2)(4x + 1)(x - 8) = 12x^3 - 101x^2 + 38x + 16$ **for all value of x.**

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(Total for question 13 is 3 marks)

14. Show that $(6x - 3)(4x + 1)(3x - 8) = 3(24x^3 - 70x^2 + 13x + 8)$ **for all value of x.**

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(Total for question 14 is 3 marks)