

Expanding Double Brackets

Please write clearly in block capitals

Forename:

Surname:

Materials

For this paper you must have:

- mathematical instruments



You must **not** use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

1 Expand the following double brackets:

(Level 4)

1(a) $(x + 5)(x - 7)$

[1 mark]

Answer _____

1(b) $(x + 5)(x - 3)$

[1 mark]

Answer _____

1(c) $(x + 7)(x - 7)$

[1 mark]

Answer _____

1(d) $(x - 5)(x + 6)$

[1 mark]

Answer _____

1(e) $(x + 8)(x + 1)$

[1 mark]

Answer _____

Turn over for next question

2 Expand the following:

(Level 4)

2(a) $(2x + 2)(4x - 6)$

[1 mark]

Answer _____

2(b) $(7x - 8)(2x + 8)$

[1 mark]

Answer _____

2(c) $(8x + 3)(5x - 1)$

[1 mark]

Answer _____

2(d) $(2x + 3)(7x + 3)$

[1 mark]

Answer _____

2(e) $(3x - 1)(6x - 8)$

[1 mark]

Answer _____

Turn over for next question

3 Expand the following:

(Level 4)

3(a) $(5x - 3)(-4x + 2)$

[1 mark]

Answer _____

3(b) $(4x + 4)(-3x + 1)$

[1 mark]

Answer _____

3(c) $(3x - 2)(-4x - 5)$

[1 mark]

Answer _____

3(d) $(-4x - 1)(3x + 7)$

[1 mark]

Answer _____

3(e) $(8x - 5)(-x + 8)$

[1 mark]

Answer _____

Turn over for next question

4 Expand the following double brackets:

(Level 4)

4(a)

$$(x + 5)(x - 7) - (x + 2)^2$$

[2 marks]

Answer _____

4(b)

$$(x + 2)^2 + (2x + 2)^2$$

[2 marks]

Answer _____

4(c)

$$(x + 7)^2 + (3x - 2)(x + 1) - x$$

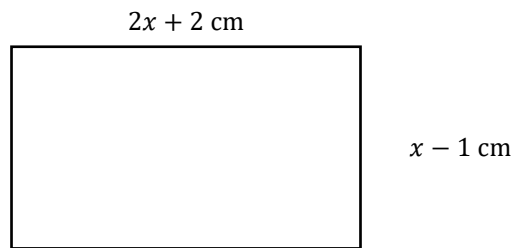
[2 marks]

Answer _____

Turn over for next question

5 A rectangle is shown below.

(Level 5)



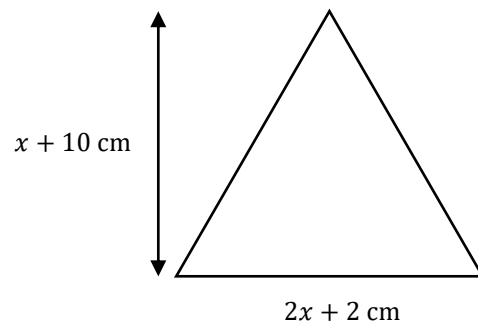
Find an expression for area of the rectangle.

[2 marks]

Answer _____

6 A triangle is shown below.

(Level 5)



Find an expression for area of the triangle.

[2 marks]

Answer _____

- 7** A cinema discovers that when tickets are £7, all 220 seats are filled. (Level 5)
 Ticket price rises occur in 50p increases.
 For every ticket price increase of 50p, 10 fewer people attend a film.
 The expression for this is $(0.5x + 7)(220 - 10x)$

- 7(a)** Expand the brackets for this equation.

[2 marks]

Answer _____

- 7(b)** Find out the total earned, if the manager increases the price of the ticket five times.

[2 marks]

Answer _____



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