

UNIT 8 *Algebra: Brackets***Revision Test 8.1**
(Standard)

1. Calculate:

(a) $6 - 10$

(b) $-2 - 5$

(c) $(-7) \times (-4)$

(d) $6 - (-3)$

(e) $-9 - (-4)$

(f) $-11 + 3$

(6 marks)

2. Copy and complete the following tables and the expansions they give:

(a)

\times	x	2
4		

$4(x + 2) =$

(b)

\times	x	-2
6		

$6(x - 2) =$

(6 marks)

3. Expand:

(a) $6(x - 3)$

(b) $4(3x - 5)$

(4 marks)

4. Solve the following equations:

(a) $2(x + 4) = 14$

(b) $3(x - 2) = 12$

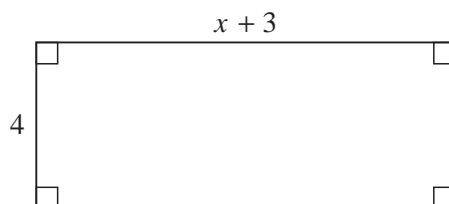
(6 marks)

5. Factorise:

(a) $3x + 6$

(b) $4x + 12$

(4 marks)

6. Given that the area of the following rectangle is 20 cm^2 , determine x .

(4 marks)

UNIT 8 *Algebra: Brackets***Revision Test 8.2**
(Academic)

1. Calculate:

(a) $(-4) \times (-7)$

(b) $-6 - (-2)$

(c) $-21 - 13$

(d) $8 - (-14)$

(4 marks)

2. Expand:

(a) $2(x + 7)$

(b) $4(x - 3)$

(c) $x(x + 4)$

(d) $3(2x - 5)$

(7 marks)

3. Solve the following equations:

(a) $3(x + 6) = 33$

(b) $4(x - 3) = 6$

(4 marks)

4. Factorise:

(a) $2x + 8$

(b) $3x - 12$

(c) $x^2 + 4x$

(d) $6x - 14$

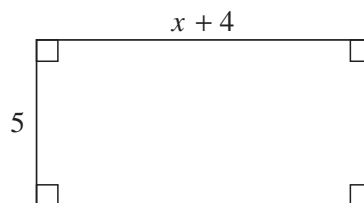
(8 marks)

5. Expand:

(a) $(x + 1)(x + 4)$

(b) $(x - 2)(x + 3)$

(4 marks)

6. Given that the area of the following rectangle is 26 cm^2 , determine x .

(3 marks)

UNIT 8 *Algebra: Brackets***Revision Test 8.3**
(Express)

1. Expand:

- (a) $2(x + 4)$ (b) $x(3x - 7)$
(c) $a(2a + 4b)$ (d) $x(3x + 4y)$

(7 marks)

2. Solve the following equations:

- (a) $8(x - 7) = 12$ (b) $5(9 - 2x) = 75$

(4 marks)

3. Factorise:

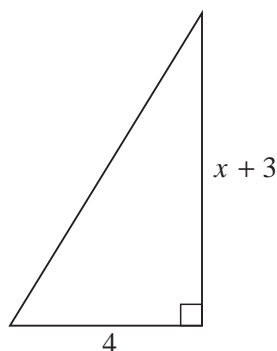
- (a) $4x + 12$ (b) $10x^2 + 5x$
(c) $2a^2b + 6ab^2$ (d) $4x - 18x^2$

(8 marks)

4. Expand:

- (a) $(x + 2)(x - 7)$ (b) $(x + 1)(2x - 3)$
(c) $(3x - 2)(5x + 2)$ (d) $(2x + 3)(4 - 3x)$

(8 marks)

5. Given that the area of the following triangle is 15 cm^2 , determine x .

(3 marks)

Revision Test 8.1 (Standard)

Answers

1. (a) $6 - 10 = -4$ B1
 (b) $-2 - 5 = -7$ B1
 (c) $(-7) \times (-4) = 28$ B1
 (d) $6 - (-3) = 9$ B1
 (e) $-9 - (-4) = -5$ B1
 (f) $-11 + 3 = -8$ B1 (6 marks)
2. (a)

\times	x	2
4	$4x$	8

 $4(x + 2) = 4x + 8$ M1 A1
 A1
- (b)

\times	x	-2
6	$6x$	-12

 $6(x - 2) = 6x - 12$ M1 A1
 A1 (6 marks)
3. (a) $6(x - 3) = 6x - 18$ M1 A1
 (b) $4(3x - 5) = 12x - 20$ M1 A1 (4 marks)
4. (a) $2(x + 4) = 14$
 $2x + 8 = 14$ M1
 $2x = 6$ A1
 $x = 3$ A1
- (b) $3(x - 2) = 12$
 $3x - 6 = 12$ M1
 $3x = 18$ A1
 $x = 6$ A1 (6 marks)
5. (a) $3x + 6 = 3(x + 2)$ B2
 (b) $4x + 12 = 4(x + 3)$ B2 (4 marks)

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6. (a) $4(x + 3) = 20$

M1 A1

$4x + 12 = 20$

M1

$4x = 8$

$x = 2$

A1 (4 marks)

(TOTAL MARKS 30)

Revision Test 8.2 (Academic)

Answers

- | | | | |
|--------|---------------------------------|-------|-----------|
| 1. (a) | $(-4) \times (-7) = 28$ | B1 | |
| (b) | $-6 - (-2) = -4$ | B1 | |
| (c) | $-21 - 13 = -34$ | B1 | |
| (d) | $8 - (-14) = 22$ | B1 | (4 marks) |
| | | | |
| 2. (a) | $2(x + 7) = 2x + 14$ | B1 | |
| (b) | $4(x - 3) = 4x - 12$ | B2 | |
| (c) | $x(x + 4) = x^2 + 4x$ | B2 | |
| (d) | $3(2x - 5) = 6x - 15$ | B2 | (7 marks) |
| | | | |
| 3. (a) | $3(x + 6) = 33$ | | |
| | $3x + 18 = 33$ | M1 | |
| | $3x = 15$ | | |
| | $x = 5$ | A1 | |
| (b) | $4(x - 3) = 6$ | | |
| | $4x - 12 = 6$ | M1 | |
| | $4x = 18$ | | |
| | $x = 4\frac{1}{2}$ | A1 | (4 marks) |
| | | | |
| 4. (a) | $2x + 8 = 2(x + 4)$ | B2 | |
| (b) | $3x - 12 = 3(x - 4)$ | B2 | |
| (c) | $x^2 + 4x = x(x + 4)$ | B2 | |
| (d) | $6x - 14 = 2(3x - 7)$ | B2 | (8 marks) |
| | | | |
| 5. (a) | $(x + 1)(x + 4) = x^2 + 5x + 4$ | M1 A1 | |
| (b) | $(x - 2)(x + 3) = x^2 + x - 6$ | M1 A1 | (4 marks) |
| | | | |
| 6. | $5(x + 4) = 26$ | M1 | |
| | $5x + 20 = 26$ | A1 | |
| | $5x = 18$ | | |
| | $x = 1.2$ | A1 | (3 marks) |

(TOTAL MARKS 30)

Revision Test 8.3 (Express)

Answers

- | | | | |
|--------|--|-------|-----------|
| 1. (a) | $2(x+4) = 2x + 8$ | B1 | |
| (b) | $x(3x-7) = 3x^2 - 7x$ | B2 | |
| (c) | $a(2a+4b) = 2a^2 + 4ab$ | B2 | |
| (d) | $x(3x+4y) = 3x^2 + 4xy$ | B2 | (7 marks) |
| | | | |
| 2. (a) | $8(x-7) = 12$ | | |
| | $8x - 56 = 12$ | M1 | |
| | $8x = 68$ | | |
| | $x = 8.5$ | A1 | |
| (b) | $5(9-2x) = 75$ | | |
| | $45 - 10x = 75$ | M1 | |
| | $10x = -30$ | | |
| | $x = -3$ | A1 | (4 marks) |
| | | | |
| 3. (a) | $4x + 12 = 4(x+3)$ | B2 | |
| (b) | $10x^2 + 5x = 5x(2x+1)$ | B2 | |
| (c) | $2a^2b + 6ab^2 = 2ab(a+3b)$ | B2 | |
| (d) | $4x - 18x^2 = 2x(2-9x)$ | B2 | (8 marks) |
| | | | |
| 4. (a) | $(x+2)(x-7) = x^2 - 5x - 14$ | M1 A1 | |
| (b) | $(x+1)(2x-3) = 2x^2 - x - 3$ | M1 A1 | |
| (c) | $(3x-2)(5x+2) = 15x^2 - 4x - 4$ | M1 A1 | |
| (d) | $(2x+3)(4-3x) = -6x^2 - x + 12$ | M1 A1 | (8 marks) |
| | | | |
| 5. | $15 = \frac{1}{2} \times 4 \times (x+3)$ | M1 | |
| | $15 = 2x + 6$ | A1 | |
| | $2x = 9$ | | |
| | $x = 4.5$ | A1 | (3 marks) |

(TOTAL MARKS 30)