SCORE A

Algebra

With Classified answer book

8

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6- Expanding Single Bracket

1. (a) Expand $3(2y - 5)$ .....

(b) Expand and simplify $3(a + 1)$ .....

2. (a) Expand $4(3x + 5)$ .....

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

3. (a) Expand $5(p - 3)$ .....

(b) Expand $3(4x + y)$ .....

4. Expand (a) $-3(x + 2)$ .....

(b) $-a(b + 2)$ .....

5. Expand and simplify $3(x + 4) + 2(5x - 1)$

....

6. Expand and simplify $3(x + 5) + 2(5x - 6)$

....

7. Expand and simplify $2(x - y) - 3(x - 2y)$

....

8. Show that $4y(5 - 9y) + 6y(6y - 1)$ simplifies to $14y$.

9. (a) Expand $5(2y - 3)$ .....

(b) Expand the brackets $p\,(q - 3)$ .....

(c) Expand and simplify

$5(3p + 2) - 2(5p - 3)$ .....

10. Expand and simplify $4(x - 3) - 2(1 - x)$

.....

11. (a) Expand $3(2g - 1)$ .....

(b) Expand $2d(d + 3)$ .....

(c) Expand and simplify

$3(2x - 1) - 2(2x - 3)$ .....

12. (a) Multiply out the brackets, then write this expression as simply as possible.

$x(5 - x) + 4(x^2 + 1)$

(b) Multiply $(5n + 2)$ by 3

Write your answer without any brackets.

13. Jenny wants to multiply out the brackets in the expression $3(2a + 1)$

She writes: $3(2a + 1) = 6a + 1$

Show why Jenny is **wrong**.

14. Without expanding the brackets, decide whether you think these expressions will be equivalent or not.

$3(x+4)+2$	$2x+3(x+4)$
$2+3(x+4)$	$3(x+4)+2$

Checking by building the expressions using algebra tiles.
Simplify the expressions and compare with your concrete versions.

15.Ron has made mistakes in both these simplifications.

$5 + 3(□ + 6)$ $8(□ + 6)$ $□\ □ + 48$	$5(□ - 3) + □\ □$ $□\ □ - 15 + □\ □$ $□\ □ - 15$

Explain Ron's errors and work out the correct answers.

16. (a) Which of the following is the expanded form of $5(3□ - 8)$

$□\ □ - 3$ $\qquad$ $□\ □ - 13$ $\qquad$ $□\ □ - 40$ $\qquad$ $□\ □$

(b) Which of the following is the expanded form of $5□(3□ + 10□)$

$□\ □\ □\ □\ □\ □\ □\ □\ □\ □\ □\ □\ □\ □□□^2□ + □\ □\ □$ $\qquad$ $□\ □ + □\ □\ □$

c) Which of the following is the expanded form of $8□(3□^2 + 3□)$

$24□^3$ $\qquad$ $24□^2 + 24$ $\qquad$ $□^2□\ □ + 24)$ $\qquad$ $24□^2 + 24□^3$

7- Expanding Two Brackets

1. Expand and simplify $(y + 3)(y + 5)$

.....

2. Expand and simplify $(x + 5)(x - 1)$

.....

3. Expand and simplify $(w - 2)(w - 7)$

.....

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

.....

5. Expand and simplify $(2y + 1)(y + 3)$

....

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

....

7. Expand and simplify $(5y - 1)(y - 2)$

....

8. Expand and simplify $(x - 7)^2$

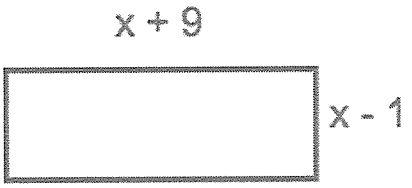
....

9. A rectangle is shown below.

The length of the rectangle is x + 9 cm.

The width of the rectangle is x - 1 cm.

Form an expression for the area of the rectangle.



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10. Expand and simplify (3 + g)(5 - g)

.....

11. Expand and simplify (y + y)(y + 3)

.....

12. Expand and simplify (x - 3)(x + 3)

.....

13. Look at the expressions in the shaded boxes.

Draw lines to match them to the expressions on the right.

$(y + 7)(y + 7)$	$y^2 + 49$
$(y + 7)(y - 7)$	$y^2 - 49$
$(y - 7)(y + 7)$	$y^2 + 14y + 49$
$(y - 7)(y - 7)$	$y^2 - 14y + 49$
	None of the above

14. Fatima and Aisha were both working out the answer to $(x+3)^2$

Fatima wrote: $(x+3)^2 = x^2 + 9$
Aisha wrote: $(x+3)^2 = (x + 3)(x + 3)$
$= x^2 + 3x + 3x + 9 = x^2 + 6x + 9$

Whose working is correct?