

BRACKETS

MNU 4-03a

Having recognised similarities between new problems and problems I have solved before, I can carry out the necessary calculations to solve problems set in unfamiliar contexts.

MTH 4-14a

Having explored the distributive law in practical contexts, I can simplify, multiply and evaluate simple algebraic terms involving a bracket.

Pupils should be able to:

- Understand order of operation rules (BODMAS)
- Evaluate expressions involving brackets eg $4(x + 2y) + 8x$, given x and y
- Understand power notation eg $3x^2$
- Simplify expressions eg $3y \times 2y$
- Collect like terms eg $x^2 + 3x^2 + x$
- Multiply out brackets eg $3(2x + 5)$, $6x(3x - 4)$

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
BODMAS (QUESTION 1)			
Evaluate expressions with brackets (QUESTION 2, 5 - 6)			
Multiplying out brackets (QUESTIONS 3 - 4)			

mymaths lessons: [library/algebra/algebraic manipulation/brackets](#)
[library/algebra/expressions and formulae/substitution](#)
[library/algebra/expressions and formulae/ order of operations](#)

SELF EVALUATION EXERCISE

DATE DUE _____

1. Evaluate

- a. $18 - 3 \times 4$ b. $(18 - 3) \times 4$ c. $20 \times (3 + 4)$ d. $20 - 4 \div 4$

2. Given that $r = 4$ and $s = 7$ find the value of

- a. $3r + 2s$ b. $5 + r \times s$ c. $2(s - r)$ d. $r(3s - 4r)$ e. $12(3r - s)$

3. Expand each of the following:

- a. $2(x + 3)$ b. $4(r - 2)$ c. $7(3 + j)$ d. $3(2y + 3)$ e. $7(9g - 2)$

- f. $a(b + c)$ g. $z(2y - 3x)$ h. $d(d - 3c)$ i. $4(2r + 5s - 3t)$

4. Expand and simplify :

- | | | |
|----------------------|---------------------|--------------------|
| a) $3(2a - 1) + a$ | b) $2(3x + 1) - 2x$ | c) $5(b + 1) - 11$ |
| d) $5(2g - 1) + 3$ | e) $3(3 - 4y) + 7y$ | f) $3(4c + 1) - 6$ |
| g) $4(3h + 1) - 10h$ | h) $a(b + 2) + 2ab$ | i) $7(2 - 3m) - 8$ |

5. A formula is given as $E = p^2 + 2$.

Find the value of E when i) $p = 2$ ii) $p = 3$ iii) $p = 6$ iv) $p = 0$.

6. Given that $h = 8$ and $g = 3$, calculate the values of:

- (a) $3(h + g)$ (b) $\frac{h^2}{g}$ (c) $g(2h + g)$ (d) $h(7h - 3g)$