SUPER 12s

SUPER 12s CAN BE USED AS AN INDIVIDUALISED MASTERY LEARNING PROGRAM.

2 ALGEBRA
2.6 EXPANDING BRACKETS
2.6 LEVEL 5

NAME : _____

Skill description: Expanding brackets using the distributive law involving terms with coefficients and variables.

Essential Revision

1. Use the distributive law to expand.

$$3(d-p)$$

2. Use the distributive law to expand.

$$6(2x-3)$$

3. Show that

$$2(p-2d)=2p-4d$$

by substituting $p=5$ and $d=3$.

4. Use the distributive law to expand.

$$-4(x-2)$$

5. Use the distributive law to expand.

$$a(b+d)$$

6. Use the distributive law to expand.

$$2a(7b-d)$$

7. Show that

$$6(x-3)=6x-18$$

by substituting $x=3$.

8. Use the distributive law to expand.

$$-8(3b+5)$$

9. Use the distributive law to expand.

$$a(c-2)$$

10. Use the distributive law to expand.

$$3a(c-3)$$

11. Show that

$$2a(6b-d)=12ab-2ad$$

by substituting $a=2,\ b=3$ and $d=1$.

12. Use the distributive law to expand.

$$-a(c-6)$$

Solutions can be found at the end of the booklet.

score $\frac{\quad}{12}$

STRATEGIES TO SOLVE THE PROBLEMS

Example 1

Use the distributive law to expand the following bracket.

$$a(3a+2)$$

Step 1

Multiply the a and $3a$.

$$a(3a+2) = 3a^2$$

Step 2

Multiply the a and 2. As both the a and 2 are positive, the result is $+2a$.

$$a(3a+2) = 3a^2 + 2a$$

Example 2

Use the distributive law to expand the following bracket.

$$x^2(x-3)$$

Step 1

Multiply the x^2 and x.

$$x^2(x-3) = x^3$$

Step 2

Multiply the x^2 and -3. As the x^2 is positive and the 3 negative, the resultant is $-3x^2$.

$$x^2(x-3) = x^3 - 3x^2$$

QUESTIONS

Use the distributive law to expand the following brackets.

1. $a(2a + 7)$

2. $2y(y - 5)$

3. $x(3 - 4x)$

4. $2a(a + 8)$

5. $b^2(3b + 5)$

6. $x(3x - 2)$

7.

$5x(x-2)$

8.

$3d(d-3)$

9.

$2p(p-5)$

10.

$3a^2(5-a)$

11.

$p^2(3p+8)$

12.

$12x(x-2)$

SOLUTIONS CAN BE FOUND AT THE END OF THE BOOKLET.

score $\frac{\quad}{12}$

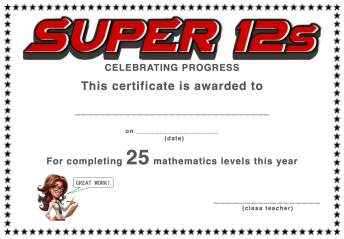
MASTERY TEST

Teacher's signature

I'VE COMPLETED

_____

LEVELS THIS YEAR



Solutions to Essential Revision

1. $3d - 3p$	2. $12x - 18$
3. $-2 = -2$	4. $-4x + 8$
5. $ab + ad$	6. $14ab - 2ad$
7. $0 = 0$	8. $-24b - 40$
9. $ac - 2a$	10. $3ac - 9a$
11. $68 = 68$	12. $-ac + 6a$

Solutions to Questions

1. $2a^2 + 7a$	2. $2y^2 - 10y$
3 $3x - 4x^2$	4. $2a^2 + 16a$
5. $3b^3 + 5b^2$	6. $3x^2 - 2x$
7. $5x^2 - 10x$	8. $3d^2 - 9d$
9. $2p^2 - 10p$	10. $15a^2 - 3a^3$
11. $3p^3 + 8p^2$	12. $12x^2 - 24x$