SUPER 12s

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

2 ALGEBRA
2.6 EXPANDING BRACKETS
2.6 LEVEL 3

NAME : _____

Skill description: Confirmation of the distributive law through substitution.

Essential Revision: Use the distributive law to expand.

1. $3(x+4)$

2. $3(3x+4)$

3. $4(a+8)$

4. $4(3y-1)$

5. $7(x-3)$

6. $2(3a+7)$

7.

$a(b+d)$

8.

$4(5-4x)$

9.

$p(x+9)$

10.

$2(p-4d)$

11.

$5(y-3)$

12.

$4a(7b-d)$

Solutions can be found at the end of the booklet.

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

STRATEGIES TO SOLVE THE PROBLEMS

Example 1

Show that

$$2(5-4x)=10-8x$$

by substituting $x=2$.

Step 1

Substitute the value 2 in for x on both sides of the equal sign.

$$2(5-4x)=10-8x$$

$$2(5-4(2))=10-8(2)$$

Step 2

Now evaluate both the left and right-hand sides of the equal sign.

$$2(5-4(2))=10-8(2)$$

$$2(5-8)=10-16$$

$$2(-3)=-6$$

$$-6=-6$$

Example 2

Show that

$$5(p-3d)=5p-15d$$

by substituting $p=5$ and $d=2$.

Step 1

Substitute the value 5 in for p and 2 in for d on both sides of the equal sign.

$$5(p-3d)=5p-15d$$

$$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$$

$$5((5)-3(2))=5(5)-15(2)$$

Step 2

Now evaluate both the left and right-hand sides of the equal sign.

$$5((5)-3(2))=5(5)-15(2)$$

$$\downarrow$$

$$5(5-6)=25-30$$

$$\downarrow$$

$$5(-1)=-5$$

$$\downarrow$$

$$-5=-5$$

QUESTIONS

1. Show that

$$5(3x + 4) = 15x + 20$$

by substituting $x = 2$.

2. Show that

$$3(2y - 1) = 6y - 3$$

by substituting $y = 3$.

3. Show that

$$2(3a + 7) = 6a + 14$$

by substituting $a = 5$.

4. Show that

$$3(5 - 4x) = 15 - 12x$$

by substituting $x = 1$.

5. Show that

$$4(2b + 5) = 8b + 20$$

by substituting $b = 4$.

6. Show that

$$6(2x - 3) = 12x - 18$$

by substituting $x = 3$.

7. Show that

$$2(p - 3d) = 2p - 6d$$

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

8. Show that

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

by substituting $a = 2$, $b = 3$ and $d = 4$.

9. Show that

$$3a(c-3) = 3ac - 9a$$

by substituting $a = 2$ and $c = 1$.

10. Show that

$$p(2x+5) = 2px + 5p$$

by substituting $p = 5$ and $x = 2$.

11. Show that

$$2(3-4x) = 6 - 8x$$

by substituting $x = 10$.

12. Show that

$$2y(x-2z) = 2xy - 4yz$$

by substituting $x = 6$, $y = 2$ and $z = 3$.

SOLUTIONS CAN BE FOUND AT THE END OF THE BOOKLET.

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

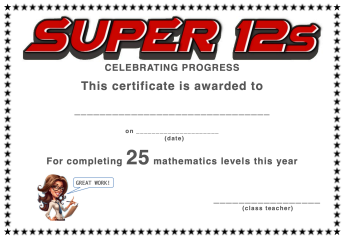
MASTERY TEST

Teacher's signature

I'VE COMPLETED

_____

LEVELS THIS YEAR



Solutions to Essential Revision

1. $3x + 12$	2. $9x + 12$
3. $4a + 32$	4. $12y - 4$
5. $7x - 21$	6. $6a + 14$
7. $ab + ad$	8. $20 - 16x$
9. $px + 9p$	10. $2p - 8d$
11. $5y - 15$	12. $28ab - 4ad$

Solutions to Questions

1. $50 = 50$	2. $15 = 15$
3. $44 = 44$	4. $3 = 3$
5. $52 = 52$	6. $18 = 18$
7. $-8 = -8$	8. $56 = 56$
9. $-12 = -12$	10. $45 = 45$
11. $-74 = -74$	12. $0 = 0$