SUPER 12s

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

2 ALGEBRA
2.3 COLLECT LIKE TERMS
2.3 LEVEL 5

NAME:_____

Skill description: Collecting like terms in expressions with variables raised to different powers.

Essential Revision

1. Circle the like terms.

$$4x, \quad 3p, \quad 17x, \quad 5g$$

2. Simplify.

$$x + 2x$$

3. Show that $4x + 2x = 6x$ by substituting $x = 3$.

4. Simplify.

$$5x + 3y + 3x + y$$

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5. Circle the like terms.

$$4a^2, \quad 2a, \quad 9a, \quad 5a^3$$

6. Simplify.

$$15y - 4y$$

7. Show that $6y - 4y = 2y$ by substituting $y = 4$.

8. Simplify.

$$4a + 6b + 3a - 2b$$

9. Circle the like terms.

$$4a, \quad 8x^3, \quad 4a^2, \quad x^3$$

10. Simplify.

$$2xy^2 + 9xy^2$$

11. Show that $4x + 6x - x = 9x$ by substituting $x = 2$.

12. Simplify.

$$6x^2 + 2y^2 + 3x^2 + 5y^2$$

Solutions can be found at the end of the booklet.

score $\frac{}{12}$

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STRATEGIES TO SOLVE THE PROBLEMS

Example 1

Simplify by collecting the like terms.
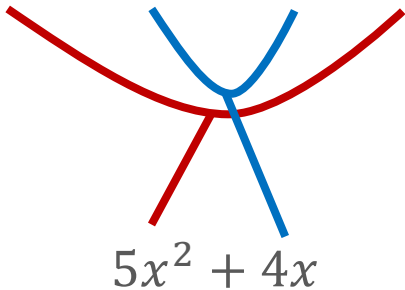
$$4x^2 + 2x + 2x + x^2$$

Step 1

Identify the like terms.

$$4x^2 + 2x + 2x + x^2$$

Step 2

Collect the like terms.

$$4x^2 + 2x + 2x + x^2$$

$$5x^2 + 4x$$

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Example 2

Simplify by collecting the like terms.

$$x^2 - 2x^2 + 4x^3 + 3x^2$$

Step 1

Identify the like terms.

$$x^2 - 2x^2 + 4x^3 + 3x^2$$

Step 2

Collect the like terms.

$$x^2 - 2x^2 + 4x^3 + 3x^2$$

$$4x^3 + 2x^2$$

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1.

$$5x^2 + 3x + 3x + 2x^2$$

2.

$$7y^2 - 2y^2 + 3y - 2y$$

3.

$$-5a^2 - 2a - a^2 + 3a$$

4.

$$2b + 4b^2 + 3b^2 + 6b^2$$

5.

$$7c^2 + 3c + c - 7c^2$$

6.

$$x^2 + 3x^2 + 3x + 2x^2$$

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7.

$$4y^2 + 2y^2 + 3y^2 - 2y$$

8.

$$-5a^2 - 4a - a^2 + 3a + 2a^2$$

9.

$$b + 4b^2 - 3b^2 + 5b^2$$

10.

$$c^2 + 5c + 4c - 6c^2$$

11.

$$2x^2 - x^2 + 3x^3 + 2x^2$$

12.

$$5y^4 + 3y^4 + 4y^2 - 3y^2$$

score $\overline{12}$

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MASTERY TEST

I'VE COMPLETED

_ _ _ _ _

LEVELS THIS YEAR

Solutions to Essential Revision

1. $4x, 17x$	2. $3x$
3. $18 = 18$	4. $8x + 4y$
5. $2a, 9a$	6. $11y$
7. $8 = 8$	8. $7a + 4b$
9. $8x^3, x^3$	10. $11xy^2$
11. $18 = 18$	12. $9x^2 + 7y^2$

Solutions to Questions

1. $7x^2 + 6x$	2. $5y^2 + y$
3. $-6a^2 + a$	4. $2b + 13b^2$
5. $4c$	6. $6x^2 + 3x$
7. $9y^2 - 2y$	8. $-4a^2 - a$
9. $b + 6b^2$	10. $-5c^2 + 9c$
11. $3x^2 + 3x^3$	12. $8y^4 + y^2$