

# SUPER 12s



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

2 ALGEBRA  
2.3 COLLECT LIKE TERMS  
2.3 LEVEL 6

NAME : \_\_\_\_\_

**Skill description:** Collecting like terms with multi-variable terms with indices.

## Essential Revision

1. Circle the like terms.

$$2a^3, x^3, 3a^2, 2x^3$$

2. Simplify.

$$2x + x - 4x$$

3. Show that  $bc + 3bc = 4bc$   
by substituting  $b = 4$  and  $c = 2$ .

4. Simplify.

$$2x + 2y + 10x - y$$

5. Simplify.

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

6. Circle the like terms.

$$z^4, 5c^4, 2z^4, 2c^5$$

7. Simplify.

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

8. Show that  $-5y - 4y = -9y$   
by substituting  $y = 3$ .

9. Simplify.

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

10. Simplify.

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

11. Circle the like terms.

$$3yz^4, yz^4, 2yz^2, 2y^2z$$

12. Simplify.

$$a^2bc - a^2bc + 6a^2bc$$

Solutions can be found at the end of the booklet.

**score**       
**12**

# STRATEGIES TO SOLVE THE PROBLEMS


## Example 1

Simplify by collecting the like terms.

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

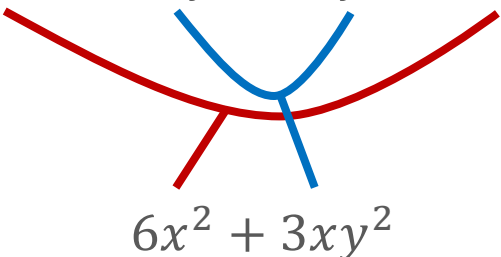
### Step 1

Identify the like terms.

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


### Step 2

Collect the like terms.

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

$$6x^2 + 3xy^2$$



SCAN THE QR CODE OR  
VISIT SUPER12S.COM  
TO WATCH A VIDEO OF  
THESE EXAMPLES.



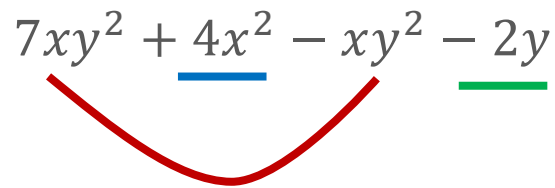
## Example 2

Simplify by collecting the like terms.

$$7xy^2 + 4x^2 - xy^2 - 2y$$

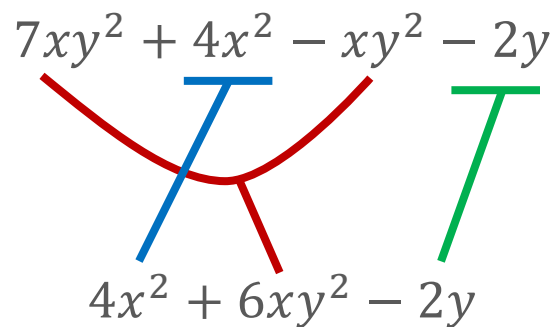
### Step 1

Identify the like terms.

$$7xy^2 + \underline{4x^2} - xy^2 - \underline{2y}$$


### Step 2

Collect the like terms.

$$7xy^2 + \underline{4x^2} - xy^2 - \underline{2y}$$

$$4x^2 + 6xy^2 - 2y$$

## QUESTIONS

Simplify.

1.

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

2.

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

3.

$$-2a^2b - 2ab - a^2b + 3ab$$

4.

$$ab + 2a^3b^2 + 3a^3b^2 + a^3b^2$$

5.

$$5c^2 + 4bc + bc - 7c^2$$

6.

$$4x^2y^2 + 2x^2y^2 + 3xy^2 + x^2y^2$$

7.

$$3xy^2 + 6x^2 - xy^2 - 2y$$

8.

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

9.

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

10.

$$bc^2 + 6bc + 4bc - 6bc^2$$

11.

$$2xy^2 - xy^2 + 3xy^3 + 2xy^2$$

12.

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



SOLUTIONS CAN BE FOUND AT  
THE END OF THE BOOKLET.

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

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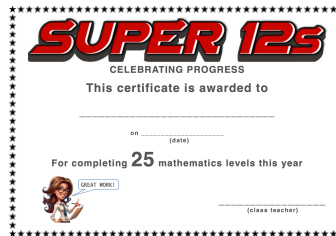
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# MASTERY TEST

Teacher's signature

I'VE COMPLETED

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LEVELS THIS YEAR



## Solutions to Essential Revision

1.  $x^3, 2x^3$

2.  $-x$

3.  $32 = 32$

4.  $12x + y$

5.  $-3a^2 + a$

6.  $z^4, 2z^4$

7.  $7x^2y^3$

8.  $-27 = -27$

9.  $-a$

10.  $3b + 8b^2$

11.  $3yz^4, yz^4$

12.  $6a^2bc$

## Solutions to Questions

1.  $4x^2 + 4xy^2$

2.  $2y^2 + xy$

3.  $-3a^2b + ab$

4.  $ab + 6a^3b^2$

5.  $-2c^2 + 5bc$

6.  $7x^2y^2 + 3xy^2$

7.  $2xy^2 + 6x^2 - 2y$

8.  $-2a^2 - a^3$

9.  $ab + 8ab^4 - 3ab^2$

10.  $-5bc^2 + 10bc$

11.  $3xy^2 + 3xy^3$

12.  $5xy^4 + 4y^4 - 3y^2$