SUPER 12s

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

2 ALGEBRA
2.9 SUBSTITUTION
2.9 LEVEL 3

NAME : _____

Skill description: Evaluating expressions with multiple terms by substituting positive values for variables.

Essential Revision

1. Solve for the unknown.

$\blacksquare + 3 = 9$

2. Solve for the unknown.

$x + 2 = 31$

3. Write the algebraic term.

2 divided by x

4. Evaluate.

$2p$ if $p = 4$

5. Evaluate.

$\frac{-t}{10}$ if $t = 5$

6. Solve for the unknown.

$\blacksquare + 13 = 25$

7. Solve for the unknown.

$y - 3 = 9$

8. Write the algebraic term.

y multiplied by 6

9. Evaluate.

$\frac{v}{6}$ if $v = 16$

10. Evaluate.

$-11n$ if $n = -2$

11. Solve for the unknown.

$\blacksquare + 11 = 19$

12. Solve for the unknown.

$h - 3 = 22$

Solutions can be found at the end of the booklet.

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

STRATEGIES TO SOLVE THE PROBLEMS

Substitution involving multiple terms

In the previous levels, we looked at substituting values for a variable. Here, we do the same but add more variables to the expression.

Example 1

Evaluate.

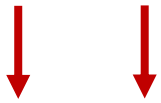
$$6x + 2p$$

if $x = 4$ and $p = 3$

Step 1

Substitute the values $x = 4$ and $p = 3$.

$$6x + 2p$$



$$6(4) + 2(3)$$

$$24 + 6$$

$$30$$

Example 2

Evaluate.

$$4x - 3k + 1$$

if $x = 5$ and $k = 6$

Step 1

Substitute the values $x = 5$ and $k = 6$.

$$4x - 3k + 1$$

$$4(5) - 3(6) + 1$$

$$20 - 18 + 1$$

$$3$$

QUESTIONS

Evaluate and simplify your answer.

1.

$$6x + 2p$$

if $x = 2$ and $p = 3$

2.

$$4y - 2j$$

if $y = 4$ and $j = 2$

3.

$$2x + 4y + 1$$

if $x = 2$ and $y = 3$

4.

$$5x - 2p$$

if $x = 4$ and $p = 3$

5.

$$10x - 2t - 4$$

if $x = 4$ and $t = 2$

6.

$$8g + r$$

if $r = 4$ and $g = 3$

7.

$10y - 3b$

if $b = 4$ and $y = 2$

8.

$3x + 5y - 7$

if $y = 5$ and $x = 3$

9.

$10x - p$

if $p = 20$ and $x = 3$

10.

$x - 8t + 10$

if $t = 1$ and $x = 20$

11.

$8y - 2p$

if $y = 4$ and $p = 3$

12.

$3x - 5t - 4$

if $x = 11$ and $t = 4$

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. $\blacksquare = 6$	2. $x = 29$
3. $\frac{2}{x}$	4. 8
5. $-\frac{1}{2}$	6. $\blacksquare = 12$
7. $y = 12$	8. $6y$
9. $\frac{8}{3}$	10. 22
11. $\blacksquare = 8$	12. $h = 25$

Solutions to Questions

1. 18	2. 12
3. 17	4. 14
5. 32	6. 28
7. 8	8. 27
9. 10	10. 22
11. 26	12. 9