

# CODE LINE

## DIRECTIONS:

Evaluate any expression below for the given values of the variables. Each time your answer appears in the code, write the letter of that exercise above it.

KEEP WORKING AND YOU WILL DECODE THE LINE.

## EVALUATION PKG

(M)  $5x + 4$  if  $x = 3$

(G)  $7a + 3$  if  $a = -2$

(P)  $-3y - 9$  if  $y = -8$

(A)  $4b + 9t$  if  $b = 7, t = -2$

(C)  $-8g + 3n$  if  $g = -3, n = 4$

(N)  $-6s - 5h$  if  $s = 9, h = 5$

(T)  $x + 7p$  if  $x = -1, p = 8$

(U)  $7q - 2d + 3$  if  $q = -7, d = 1$

(S)  $-c + 5m - 3$  if  $c = -5, m = 2$

(X)  $4x + 6y - 2z$  if  $x = -9, y = 2, z = -3$

(F)  $-9y + 5p + 3z$  if  $y = 7, p = -4, z = 6$

(H)  $7e - m - 4w$  if  $e = 3, m = -8, w = 1$

(E)  $6r + 5d + y$  if  $r = -4, d = -3, y = 8$

(B)  $9x - 3y - f$  if  $x = 3, y = 1, f = -8$

(I)  $-b - 4x + 7g$  if  $b = 2, x = 4, g = 5$

(R)  $-2v + 2h - 8s$  if  $v = 9, h = 7, s = -6$

TITLE: RAPID MULTIPLICATION

44 -48 -79 -79 17 -79 -11 10 44 10 32 32 17 55 -65 10 44 19 17 12 10

25 10 44 -31 44 10 17 12 17 -79 -11 -31 -18 15 -31 44 17 -31 -79 36 -31

# Why Does A Sheep Scratch Himself?

SIMPLIFY any expression below. Then EVALUATE for the given value(s) of the variable(s). Find the simplified expression in the answer column. Notice the letter next to ... Write this letter above the value of the expression which you will find at the bottom of the page. Keep working and you will discover the answer to the title question.

- |                            |   |                  |
|----------------------------|---|------------------|
| ① $3x + 7x + 2$ if $x = 6$ | ⑤ $9x + 5 + x + 8$ if $x = 7$               | ⑨ $10x + 13$     |
| ② $4y + 5 + 2y$ if $y = 3$ | ⑥ $4y + 8y + 6 + 2y$ if $y = 2$             | ⑩ $4x + 5y + 8$  |
| ③ $9 + x + 4x$ if $x = 8$  | ⑦ $4x + 2y + 7x + 3$ if $x = 3, y = 4$      | ⑪ $6x + 8y + 12$ |
| ④ $8y + 3 + 4y$ if $y = 4$ | ⑧ $8 + 3x + x + 5y$ if $x = 8, y = 5$       | ⑫ $8x + 8y + 12$ |
|                            | ⑨ $9x + 6y + 5x + 4y$ if $x = 7, y = 9$     | ⑬ $10x + 2$      |
|                            | ⑩ $8 + 6x + 4 + 8y$ if $x = 1, y = 6$       | ⑭ $7x + 11y + 1$ |
|                            | ⑪ $3x + 2y + 4 + 9y$ if $x = 8, y = 4$      | ⑮ $6x + 4y + 15$ |
|                            | ⑫ $4x + 5y + 7x + 5 + 2y$ if $x = 2, y = 3$ | ⑯ $5x + 9$       |
|                            | ⑬ $9 + 8x + 3y + 3 + 5y$ if $x = 7, y = 5$  | ⑰ $6x + 8y + 7$  |
|                            | ⑭ $x + 6x + 2y + 1 + 9y$ if $x = 6, y = 9$  | ⑱ $6y + 5$       |
|                            | ⑮ $6x + 2y + 5y + 7 + y$ if $x = 8, y = 1$  | ⑳ $12y + 3$      |
|                            | ⑯ $8x + 8y + x + 6y + 4x$ if $x = 1, y = 2$ | ㉑ $11x + 2y + 3$ |
|                            | ⑰ $3x + 8 + 4y + 7 + 3x$ if $x = 9, y = 6$  | ㉒ $3x + 11y + 4$ |
|                            | ⑱ $5x + 5y + 9y + 2x + y$ if $x = 8, y = 3$ | ㉓ $7x + 15y$     |
|                            |   | ㉔ $14x + 10y$    |
|                            |   | ㉕ $11x + 7y + 5$ |
|                            |   | ㉖ $14y + 6$      |
|                            |   | ㉗ $13x + 14y$    |

65	49	108	34	188	51	48	63	66	72	23	41	142	101	62	44	93	83		

~~BB-10~~ **B**

## Assignment

Evaluate each using the values given.

1)  $yx + 4$ ;  $x = 5$ , and  $y = 2$

2)  $y(8 - x)$   $x = 6$ , and  $y = 3$

3)  $np - n$   $n = 7$ , and  $p = 8$

4)  $8 - (x + 5y)$   $x = 3$ , and  $y = 8$

5)  $p^2 + \frac{m}{2}$   $m = 4$ , and  $p = 4$

6)  $qp - 8$   $p = 3$ , and  $q = 4$

7)  $\frac{8 - (x - y)}{3}$   $x = 4$ , and  $y = 5$

8)  $y^2 + y + x$   $x = -4$ , and  $y = 10$

9)  $j(j - 2h)$   $h = 5$ , and  $j = -5$

10)  $3x + \frac{y}{x}$   $x = 2$ , and  $y = 10$

11)  $a + 7a - (b^2)$   $a = -2$ , and  $b = -5$

12)  $3(h - j)$   $h = 8$ , and  $j = 9$

13)  $4n + m - 2m - m$   $m = 8, \text{ and } n = 9$

14)  $5y - (3 + x)$   $x = 4, \text{ and } y = -6$

15)  $x(-1 - y + 5x)$   $x = 6, \text{ and } y = 8$

16)  $yx + (x^2)$   $x = -9, \text{ and } y = 7$

17)  $-2n(-4 - n + m)$   $m = 9, \text{ and } n = -10$

18)  $\frac{y+x}{4} - 3y$   $x = -5, \text{ and } y = -11$

19)  $\frac{h}{2} - \frac{j}{4}$   $h = -10, \text{ and } j = 8$

20)  $x(3x - x) + x + \frac{6y}{3}$   $x = 14, \text{ and } y = 11$

21)  $y + 4x - (x^2)$   $x = -6, \text{ and } y = 8$

22)  $\frac{b+a}{2} - 9$   $a = -7, \text{ and } b = -9$

## 9 Substitutions in Algebraic Expressions Level 1 **EVALUATED**



### Skill Builder

- 1** If  $x = -2$ , determine the numerical value of the following algebraic expression.

$$4x = \underline{\hspace{2cm}}$$

- 2** If  $x = -4$ , determine the numerical value of the following algebraic expression.

$$-x = \underline{\hspace{2cm}}$$

- 3** If  $x = 5$ , determine the numerical value of the following algebraic expression.

$$x + 7 = \underline{\hspace{2cm}}$$

- 4** If  $x = -1$ , determine the numerical value of the following algebraic expression.

$$4 + x = \underline{\hspace{2cm}}$$

- 5** If  $x = 21$ , determine the numerical value of the following algebraic expression.

$$x \div -3 = \underline{\hspace{2cm}}$$

- 6** If  $x = -16$ , determine the numerical value of the following algebraic expression.

$$\frac{x}{-2} = \underline{\hspace{2cm}}$$

- 7** If  $x = 15$ , determine the numerical value of the following algebraic expression.

$$x - 7 = \underline{\hspace{2cm}}$$

- 8** If  $x = -9$ , determine the numerical value of the following algebraic expression.

$$5 - x = \underline{\hspace{2cm}}$$

- 9** If  $x = 2$ , determine the numerical value of the following algebraic expression.

$$3x - 1 = \underline{\hspace{2cm}}$$

- 10** If  $x = -8$ , determine the numerical value of the following algebraic expression.

$$\frac{2x - 9}{5} = \underline{\hspace{2cm}}$$

**Skill Builder****10 Substitutions in Algebraic Expressions Level 2****ENRICHMENT**

- 1** If  $x = -5$ , determine the numerical value of the following algebraic expression.

$$4x^2 = \underline{\hspace{2cm}}$$

- 2** If  $x = -3$ , determine the numerical value of the following algebraic expression.

$$-5x^2 = \underline{\hspace{2cm}}$$

- 3** If  $x = -1$ , determine the numerical value of the following algebraic expression.

$$7x - x^2 = \underline{\hspace{2cm}}$$

- 4** If  $x = 1$ , determine the numerical value of the following algebraic expression.

$$x^2 - 5x + 6 = \underline{\hspace{2cm}}$$

- 5** If  $x = 3$  and  $y = -2$ , determine the numerical value of the following algebraic expression.

$$5xy = \underline{\hspace{2cm}}$$

- 6** If  $x = 5$  and  $y = -1$ , determine the numerical value of the following algebraic expression.

$$x^2 - 3y^2 + 4 = \underline{\hspace{2cm}}$$

- 7** If  $x = 5$  and  $y = 7$ , determine the numerical value of the following algebraic expression.

$$(2x - y)^2 = \underline{\hspace{2cm}}$$

- 8** If  $x = -2$  and  $y = 0$ , determine the numerical value of the following algebraic expression.

$$(3x^2 + 5y)^2 = \underline{\hspace{2cm}}$$

- 9** If  $x = 3$  and  $y = -1$ , determine the numerical value of the following algebraic expression.

$$2y^2 - 4xy - x^2 = \underline{\hspace{2cm}}$$

- 10** If  $x = -1$  and  $y = 2$ , determine the numerical value of the following algebraic expression.

$$(-xy)^2 = \underline{\hspace{2cm}}$$