The Relationship Between Multiplication and Addition

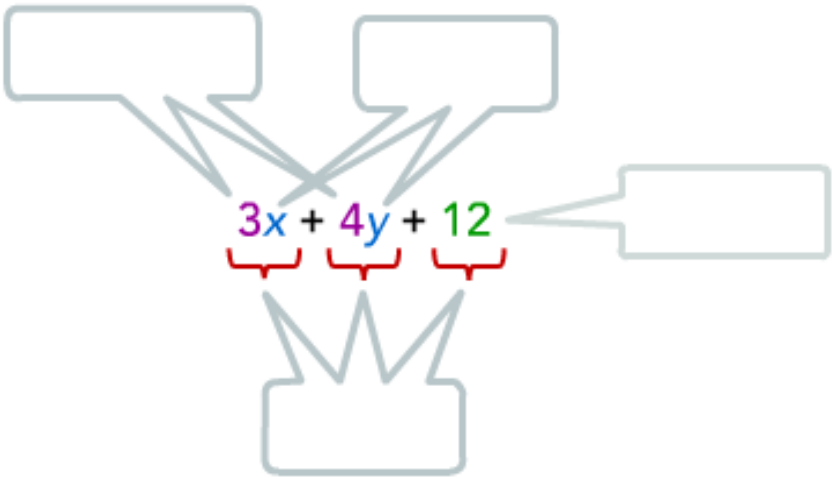
An **algebraic expression** consists of numbers, variables and operational symbols.

Variable:

Term:

Constant:

Coefficient:

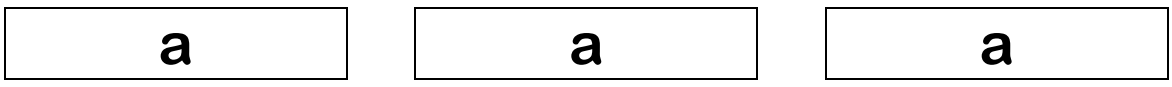


Write two different expressions that can be depicted by the tape diagrams below. One expression should include addition, while the other should include multiplication.

A.

B.

C.



Write an equivalent expression to demonstrate the relationship of multiplication and addition.

1)	$6+6$	2)	$3+3+3+3+3+3$
3)	$6 \bullet 2$	4)	$4 \bullet 6$
5)	$4+4+4+4+4$	6)	$3 \bullet 9$
7)	$h+h+h+h$	8)	$5y$

Key Concept:

Repeated Addition signals **Multiplication**

Repeated Multiplication signals **Exponents**

1)	$g \bullet g \bullet g$	2)	$a+a+a+a+a$
3)	$4k$	4)	b^7
5)	$d+d+d+w+w+w+w+w$	6)	$a \bullet a+m \bullet m \bullet m \bullet m$
7)	$a+a+b+b+b+c+c+c+c$	8)	$x+x+x+r \bullet r \bullet r$
9)	$2e+6f$	10)	n^4+2p+q^3

The Relationship Between Multiplication and Addition

An **algebraic expression** consists of numbers, variables and operational symbols.

Variable:

Letter that represents an unknown value

Term:

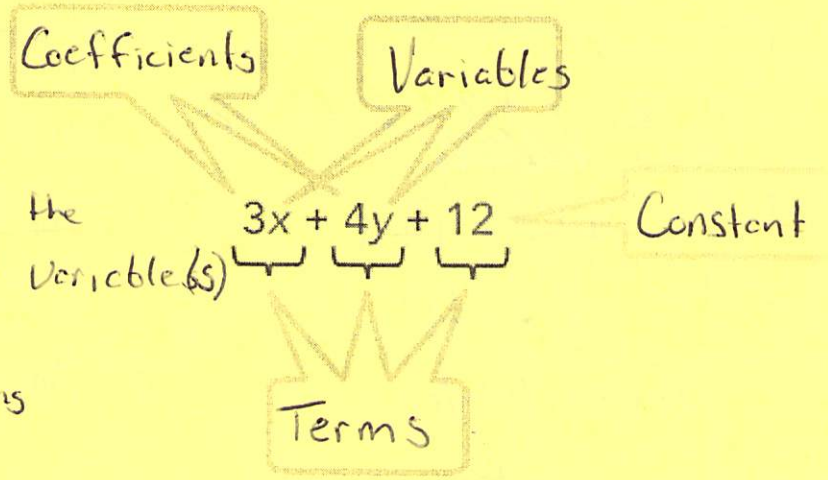
A number, a variable, or the product of a number and variable(s)

Constant:

A term that only contains numbers

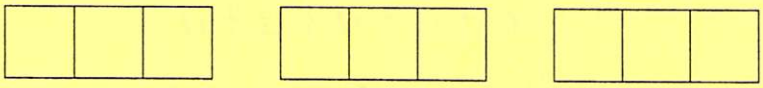
Coefficient:

The number before the variable



Write two different expressions that can be depicted by the tape diagrams below. One expression should include addition, while the other should include multiplication.

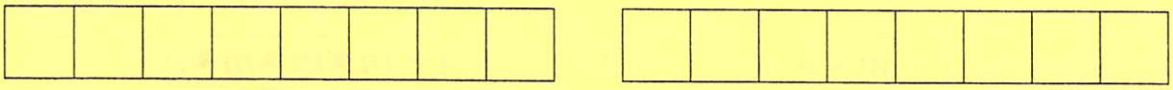
A.



3 + 3 + 3

3 • 3

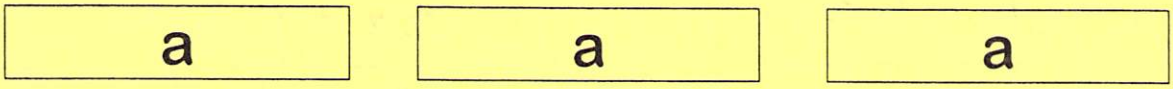
B.



8 + 8

8 • 2

C.



a + a + a

3 • a

Write an equivalent expression to demonstrate the relationship of multiplication and addition.

1)	$6+6$ $2 \cdot 6$	2)	$3+3+3+3+3+3$ $6 \cdot 3$
3)	$6 \bullet 2$ $2+2+2+2+2+2$	4)	$4 \bullet 6$ $6+6+6+6$
5)	$4+4+4+4+4$ $5 \cdot 4$	6)	$3 \bullet 9$ $9+9+9$
7)	$h+h+h+h$ $4 \cdot h$	8)	$5y$ $y+y+y+y+y$

Key Concept:

Repeated Addition signals **Multiplication**

Repeated Multiplication signals **Exponents**

1)	$g \bullet g \bullet g$ g^3	2)	$a+a+a+a+a$ $5 \cdot a$
3)	$4k$ $k+k+k+k$	4)	b^7 $b \cdot b \cdot b \cdot b \cdot b \cdot b \cdot b$
5)	$d+d+d+w+w+w+w+w$ $3d+5w$	6)	$a \bullet a + m \bullet m \bullet m \bullet m$ $a^2 + m^4$
7)	$a+a+b+b+b+c+c+c+c$ $2a+3b+4c$	8)	$x+x+x+r \bullet r \bullet r$ $3x+r^3$
9)	$2e+6f$ $e+e+f+f+f+f+f+f$	10)	n^4+2p+q^3 $n \cdot n \cdot n \cdot n + p + p + q \cdot q \cdot q$