

PART I GET STARTED**Today's Mathematics**

We will translate words and situations into expressions and evaluate them.

Essential Question

How can words describe the order of operations in an expression?

DO NOW

1. $4x + 7$ when $x = 2$

2. Identify the terms, coefficient, and constant in $6n + 5$.

3. Write $y \cdot y \cdot y$ using an exponent.

SEE IT

A sandwich costs p dollars. You pay with a \$20 bill. Write an expression for the change. Try $p = 6$.

QUICK WRITE — 2 MINUTES

Why do “5 less than a number” and “5 minus a number” describe different expressions?

PART II INVESTIGATE**BUILD AND COMPARE**

You pay for a sandwich with \$20. Write a numerical expression for the change, then calculate.

Sandwich price (dollars)	Expression for change	Change (dollars)
4		
7		
9		
p		

1. Which quantity comes first in the subtraction? Why?

2. Write an expression for two sandwiches at p dollars each and a \$3 drink. Evaluate when $p = 6$.

3. Compare “twice the sum of n and 4 with “4 more than twice n . Write both expressions.

PART III MAKE SENSE AND PRACTICE**WHAT WE CAN CONCLUDE**

A sum uses addition; a difference uses subtraction; a product uses multiplication; a quotient uses division. Read the order carefully. Parentheses group a sum or difference that is multiplied or divided.

WORKED MODEL

“3 less than twice n is $2n - 3$. At $n = 5$, $2(5) - 3 = 7$. “Twice the difference of n and 3 is $2(n - 3)$.

MUST DO

1. 7 more than x
2. The quotient of y and 4
3. 5 less than $3m$
4. Twice the sum of a and 6; then evaluate at $a = 2$.
5. Tickets cost \$8 each. Write the cost of t tickets and find the cost of 5 tickets.

READY FOR MORE

Give a value of n that makes $2(n + 3)$ and $2n + 3$ different. Show both values.

PART IV PUZZLE PRACTICE

Homework — Crack the code

Write each phrase as an expression. Match to the letter bank. Record the letters in problem order.

No.	Problem	Work and result
1	The sum of x and 5	
2	4 less than x	
3	3 times x	
4	The quotient of x and 2	
5	Twice the sum of x and 1	
6	7 more than $4x$	
7	The difference of 12 and x	
8	x squared	

LETTER BANK

Letter	Expression	Letter	Expression
R	$x + 5$	E	$x - 4$
A	$3x$	D	$\frac{x}{2}$
W	$2(x + 1)$	I	$4x + 7$
S	$12 - x$	E	x^2

DECODE

1	2	3	4	5	6	7	8