Name & Surname: _____ Class: _____ Date: _____

Writing Expressions With Letters

Record operations using numbers and variables

About 50 minutes Level ★★★☆☆



Recording operations

A **variable** is a letter that stands for a number. An **expression** records operations without an equals sign.

- Add: a + 4 means add 4 to **a**.
- Subtract: 5 - y means subtract y from 5. **Order** matters.
- Multiply: write 3 × n as **3n**. Divide: write 12 ÷ p as $\frac{12}{p}$.
- Two steps: 3n + 2 means multiply n by 3, then **add** 2.

TASK A

/9

Complete each table. Then write the expression for n.

1 IN → × 4 → − 1 → OUT

In	Out
2	
5	
7	
	11
	23

2 IN → + 5 → × 2 → OUT

In	Out
1	
3	
	20
	26

Make Simple Expressions

Practice writing one-step and two-step expressions.

TASK B

/12

Write each expression with a letter.

WARM UP

1. Write an **expression** for: add 4 to n.

Answer: _____

2. Write an **expression** for: subtract 3 from x.

Answer: _____

3. Write an **expression** for: multiply 6 by y.

Answer: _____

4. Write an **expression** for: divide a by 5.

Answer: _____

PRACTISE

5. Write an **expression** for: multiply n by 3, then add 2.

Answer: _____

6. Write an **expression** for: subtract y from 5.

Answer: _____

7. Write an **expression** for: divide 12 by p, then add 1.

Answer: _____

8. Write an **expression** for: 7 less than m.

Answer: _____

PROBLEM SOLVING

9. A student has s **stickers** and gets 8 more. Write an **expression** for the total.

Answer: _____

10. A box holds b **pencils**. 3 are taken out. Write an **expression** for pencils left.

Answer: _____

11. A notebook costs $2 and a pen costs p **dollars**. Write an **expression** for the cost of one of each.

Answer: _____

12. Explain how you **know** that 5 - y and y - 5 give different **values**.

Answer: _____

Key words

expression: a math phrase with no equals sign

variable: a letter that stands for a number

constant: a fixed number

sum: the result of adding

difference: the result of subtracting

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Spot The Mistake

Find and fix common errors with order.

TASK C

/4

Find the wrong step in each solution and fix it.



Student A

Write an expression for: subtract y from 5.

1. Subtract y from 5
2. = y - 5
3. So the answer is y - 5

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____



Student B

Write an expression for: 5 less than x.

1. 5 less than x
2. = 5 - x
3. So the answer is 5 - x

The mistake is in step: _____

What went wrong?

.....

Correct answer: _____

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Build Longer Expressions

Write expressions with two operations and real contexts.

TASK D

/12

Write each expression carefully. Watch the order.

WARM UP

1. Write an **expression** for: add m to 7.

Answer: _____

2. Write an **expression** for: subtract n from 10.

Answer: _____

3. Write an **expression** for: multiply 4 by a.

Answer: _____

4. Write an **expression** for: divide 20 by t.

Answer: _____

PRACTISE

5. Write an **expression** for: double x, then subtract 1.

Answer: _____

6. Write an **expression** for: add 6 to y, then multiply by 2.

Answer: _____

7. Write an **expression** for: subtract c from 15.

Answer: _____

8. Write an **expression** for: 8 more than 3d.

Answer: _____

PROBLEM SOLVING

9. A student is a **years** old. A sibling is 3 years older. Write an **expression** for the sibling's age.

Answer: _____

10. A jug holds L **liters**. 2 liters are poured out. Write an **expression** for liters left.

Answer: _____

11. Movie tickets cost $9 each. A student buys t **tickets**. Write an **expression** for total cost in dollars.

Answer: _____

12. A student says 4 + n means 4n. Explain how you **know** they are **different**.

Answer: _____

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Sort And Solve

Sort expressions and use bar models to solve.

TASK E

Example done for you

/7

Sort each box by color into the right group.

● **Expression**: colour it blue or draw ● ▲ **Equation**: colour it orange or draw ▲

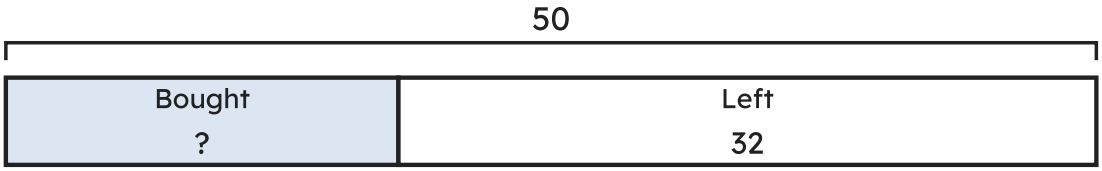
3x + 2	5 - y	4n = 12	7 + a = 10
$\frac{12}{p} + 1$	2t - 5	6 = 2m - 4	9k - 3 = 24

TASK F

/4

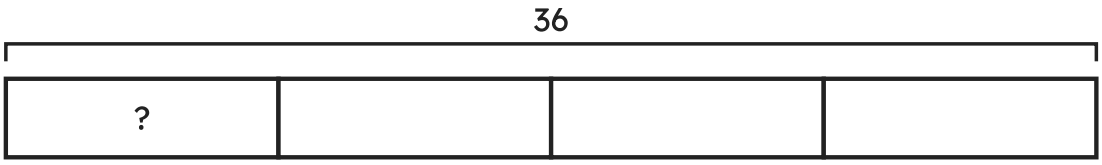
Use the bar model to solve. Think about the expression for each step.

1. A shopkeeper had 50 **pencils**. A student bought some, leaving 32 pencils. How many pencils were bought?



Answer: _____ **pencils**

2. 36 **stickers** are shared equally between 4 friends. How many stickers does each friend get?



Answer: _____ **stickers**

How did I do?

Circle a face for each line.

I can write an expression for one operation with a letter.	☹	😐	☺
I can write two-step expressions and keep the order right.	☹	😐	☺
I can tell an expression from an equation.	☹	😐	☺

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Answer sheet: Writing Expressions With Letters

Task A

1. 2 → 7; 5 → 19; 7 → 27; 3 → 11; 6 → 23
2. 1 → 12; 3 → 16; 5 → 20; 8 → 26

Task B

1. n + 4
2. x - 3
3. 6y
4. $\frac{a}{5}$
5. 3n + 2
6. 5 - y
7. $\frac{12}{p}$ + 1
8. m - 7
9. s + 8
10. b - 3
11. 2 + p
12. Subtraction order matters. 5 - y starts with 5 and takes y away, while y - 5 starts with y and takes 5 away, so they are different.

Task C

1. Step 2 is wrong: They wrote the letters in word order. Subtract y from 5 means start with 5, so 5 - y. Correct answer: 5 - y
2. Step 2 is wrong: They kept 5 first. 5 less than x means subtract 5 from x, so x - 5. Correct answer: x - 5

Task D

1. 7 + m
2. 10 - n
3. 4a
4. $\frac{20}{t}$
5. 2x - 1
6. 2(y + 6)
7. 15 - c
8. 3d + 8
9. a + 3
10. L - 2
11. 9t
12. 4 + n adds 4 and n, while 4n multiplies 4 by n. If n = 2, 4 + n = 6 but 4n = 8.

Task E

Expression (blue ●): 3x + 2, 5 - y, $\frac{12}{p}$ + 1, 2t - 5

Equation (orange ▲): 4n = 12, 7 + a = 10, 6 = 2m - 4, 9k - 3 = 24

Task F

1. 18 pencils
2. 9 stickers

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