

Lesson 9: Writing Addition and Subtraction Expressions

Classwork

Example 1

Create a bar diagram to show 3 plus 5.

How would this look if you were asked to show 5 plus 3?

Are these two expressions equivalent?

Example 2

How can we show a number increased by 2?

Can you prove this using a model? If so, draw the model.

Example 3

Write an expression to show the sum of m and k .

Which property can be used in Examples 1–3 to show that both expressions given are equivalent?

Example 4

How can we show 10 minus 6?

- Draw a bar diagram to model this expression.
- What expression would represent this model?
- Could we also use $6 - 10$?

Example 5

How can we write an expression to show 3 less than a number?

- Start by drawing a diagram to model the subtraction. Are we taking away from the 3 or the unknown number?
- What expression would represent this model?

Example 6

How would we write an expression to show the number c being subtracted from the sum of a and b ?

- Start by writing an expression for “the sum of a and b .”

- Now show c being subtracted from the sum.

Example 7

Write an expression to show the number c minus the sum of a and b .

Why are the parentheses necessary in this example and not the others?

Replace the variables with numbers to see if $c - (a + b)$ is the same as $c - a + b$.

Exercises

1. Write an expression to show the sum of 7 and 1.5.

2. Write two expressions to show w increased by 4. Then draw models to prove that both expressions represent the same thing.
3. Write an expression to show the sum of a , b , and c .
4. Write an expression and a model showing 3 less than p .
5. Write an expression to show the difference of 3 and p .

6. Write an expression to show 4 less than the sum of g and 5.
7. Write an expression to show 4 decreased by the sum of g and 5.
8. Should Exercises 6 and 7 have different expressions? Why or why not?