Topic 3 L.2: Distributing Expressions

Student Outcomes

* Students model and write equivalent expressions using the distributive property. They move from factored form to expanded form of an expression.

Warm-Up

Opening Exercise (3 minutes)

Opening Exercise

* 1. Create a model to show .
	2. Create a model to show , or .

Guided Practice

1. Write an expression that is equivalent to .
2a + 2b Factored Form

Teacher Notes: In this example we have been given the factored form of the expression.

1. Create a model to represent .
2. The expression tells us that we have of the ’s. Create a model that shows groups of .
3. How many ’s and how many ’s do you see in the diagram?

There are ’s and ’s.

1. How would the model look if we grouped together the ’s, and then grouped together the ’s?
2. What expression could we write to represent the new diagram?

 Expanded Form

1. Let and .
	* 1.
		2.
		3.
		4.

Teacher Note: if students do not believe yet that the two are equal, you can continue to plug in more values for and until they are convinced.

1. **Write two expressions that are equivalent to double . To DOUBLE means to multiply by 2**

**2(3x + 4y) factored form**

 **6x+4y standard form**

1. **Is this expression in factored form, expanded form, or neither?**

**The first expression is in factored form, and the second expression is in expanded form.**

1. **Make a model to show 3x + 4y.**

**We can make a model of .**

|  |  |
| --- | --- |
|  |  |

1. **How can we change the model to show ?**

**We can make two copies of the model.**

1. **Are there terms that we can combine in this example?**

**Yes, there are 's and 's.**

**So the model is showing .**

1. **What is an equivalent expression that we can use to represent ?**

**This** **is the same as .**

1. **Write an expression in factored form that is equivalent to the model below.**
2. **How can we rewrite this expression in expanded form?**
3. **Write an expression in expanded form that is equivalent to .**

**.**

Independent Practice

Create a model for each expression below. Then, write another equivalent expression using the distributive property.

Apply the distributive property to write equivalent expressions in expanded form.

Name Date

Homework

1. Use the distributive property to write the following expressions in expanded form.
2. Create a model to show that .