## Unit 4 Lesson 8: Equal and Equivalent

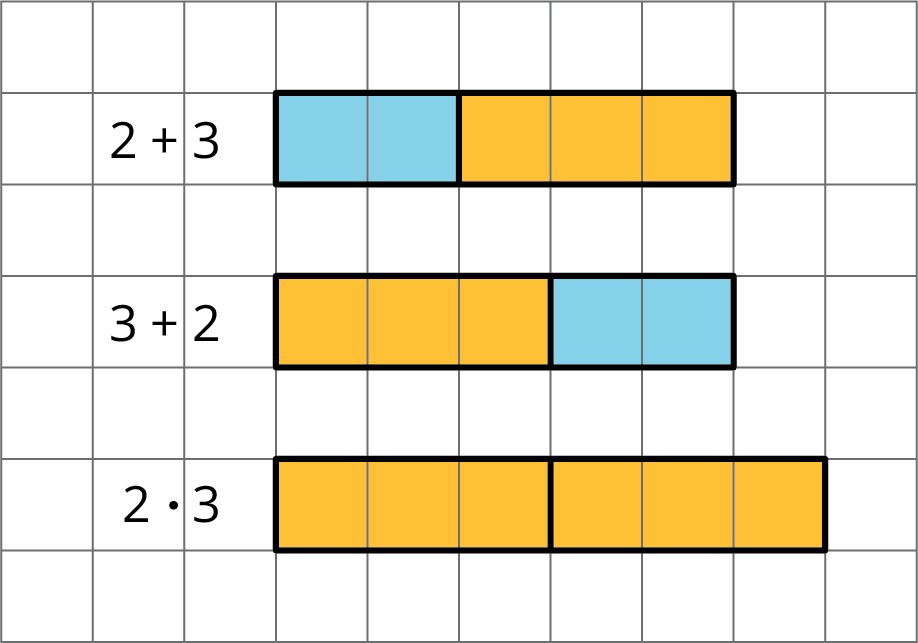
### 1 Algebra Talk: Solving Equations by Seeing Structure (Warm up)

#### Student Task Statement

Find a solution to each equation mentally.

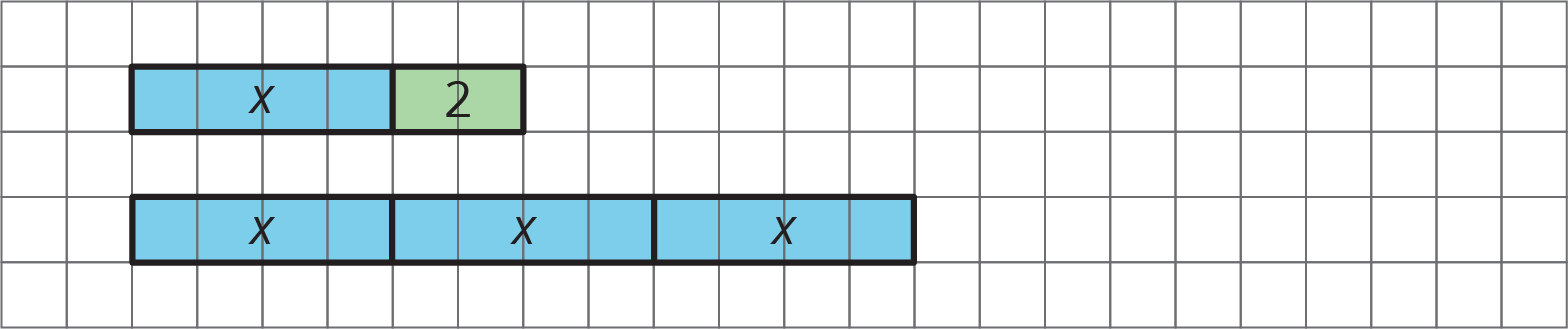
### 2 Using Diagrams to Show That Expressions are Equivalent

#### Images for Launch



#### Student Task Statement

Here is a diagram of and when is 4. Notice that the two diagrams are lined up on their left sides.



In each of your drawings below, line up the diagrams on one side.

1. Draw a diagram of , and a separate diagram of , when is 3.

* 

1. Draw a diagram of , and a separate diagram of , when is 2.

* 

1. Draw a diagram of , and a separate diagram of , when is 1.

* 

1. Draw a diagram of , and a separate diagram of , when is 0.

* 

1. When are and equal? When are they not equal? Use your diagrams to explain.
2. Draw a diagram of , and a separate diagram of .
3. When are and equal? When are they not equal? Use your diagrams to explain.

### 3 Identifying Equivalent Expressions

#### Student Task Statement

Here is a list of expressions. Find any pairs of expressions that are equivalent. If you get stuck, try reasoning with diagrams.



© CC BY Open Up Resources. Adaptations CC BY IM.