

3.1 Modeling One-Step Equations TEKS A.7.B

MATERIALS • algebra tiles

QUESTION How can you use algebra tiles to solve one-step equations?

You can model one-step equations using algebra tiles.

1-tile



x-tile



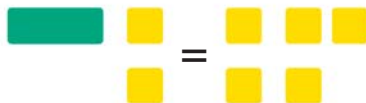
A 1-tile represents the number 1.

An x-tile represents the variable x .

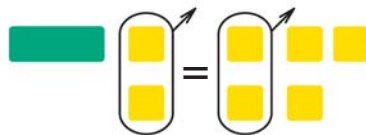
EXPLORE 1 Solve an equation using subtraction

Solve $x + 2 = 5$.

STEP 1 Model $x + 2 = 5$ using algebra tiles.



STEP 2 To find the value of x , isolate the x -tile on one side of the equation. You can do this by removing two 1-tiles from each side.

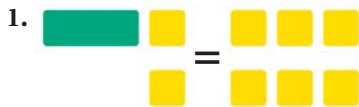


STEP 3 The x -tile is equal to three 1-tiles. So, the solution of $x + 2 = 5$ is 3.



PRACTICE

Write the equation modeled by the algebra tiles.



Use algebra tiles to model and solve the equation.

3. $x + 3 = 9$

4. $x + 2 = 7$

5. $x + 8 = 8$

6. $x + 3 = 7$

7. $x + 2 = 12$

8. $x + 7 = 12$

9. $15 = x + 5$

10. $13 = x + 10$