Solving Equations

x

-x

-1

1

By Adding and Subtracting

# Student Practice

Algebra tiles can help you visualize what’s actually happening when you are solving algebraic equations. Answer the questions below. Tips: Be sure the tile itself and not the text is selected when making a copy. You can:

* Right click and copy
* Select the tile and press Ctrl + D
* Use the Ctrl + C, Ctrl + V copy and paste short cuts or
* Hold the Ctrl key down while dragging a tile which also makes a copy of the original

Solve x + 5 = 1 using Algebra Tiles

Start by copying tiles from above to the left and right of the equals sign bar.

Next, decide what you will add to the side of the equation with x to eliminate the ones tiles. Add those tiles to both sides of the equals bar.

1

1

1

1

1

1

x

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

Eliminate the zero pairs to find your solution.

-1

-1

-1

-1

x

x = -4

Solve x - 4 = - 11

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

x

1

1

1

1

1

1

1

1

-1

-1

-1

-1

-1

-1

-1

x

 x = -7

Solve 13 – m = -8

1

1

1

1

1

1

1

1

1

1

1

1

1

-1

-1

-1

-1

-1

-1

-1

-1

-m

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

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-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-1

-m

 -m = -21 so m = 21

Solve 6 = -3 + x

x

-1

-1

-1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

x

 9 = x

Solve -2 – a = 9

1

1

1

1

1

1

1

1

1

-a

-1

-1

1

1

1

1

-a

1

1

1

1

1

1

1

1

1

1

1

-a = 11 so a = -11

1

1

1

1

1

1

1

1

1

1

1

a