1.1 Simplifying and Evaluating Algebraic Expressions

Solving Equations and Rewriting Expressions

Let's review how to identify different parts of an expression.

As a tip, consider taking down notes either by hand or digitally. Consider reviewing the notes before every quiz and test in this module.

Identifying Parts of an Expression: Algebra Animations

What are the building blocks of

When you work with algebraic expressions, it's important to understand the different parts that make up each expression. Terms are the building blocks of an expression. For example, in the expression $3x + 5 - 2x$, there are three terms: $3x$, 5, and $-2x$. A variable is a letter that represents an unknown number, like the x in $3x$. A coefficient is the number multiplied

algebraic expressions?

by the variable, such as in $3x$, the number 3 is the coefficient. A constant is a term that doesn't have a variable, like the 5 in the example. Like terms are terms that have the same variable raised to the same power, such as $3x$ and $-2x$. You can combine like terms to simplify expressions. Knowing these parts helps you write, simplify, and solve expressions with confidence.

Let's do some practice problems with simplifying algebraic expressions.

To access the problems, you will need to create a free CK12 account with your Gmail address.

Simplify Algebraic Expressions

Tour Stop

0/10

SKILL LEVEL:
To be determined

Combine the like terms: \begin{align*}6xy + 7y + 5x + 9xy \end{align*}

a \begin{align*}16xy+12x\end{align*}

b \begin{align*}15xy+5x+7y\end{align*}

c \begin{align*}15xy+11x\end{align*}

d \begin{align*}14xy+12x\end{align*}

×

Check It

Scratchpad Improve this question

What if we are given the value of a variable? How can we solve algebraic expressions?

Evaluating Expressions

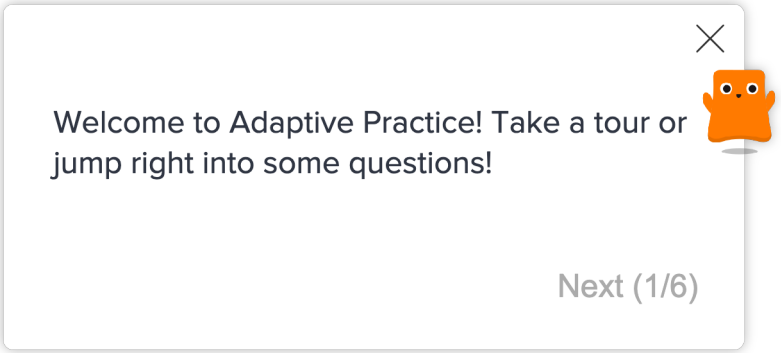
To evaluate an expression when you're given the value of a variable, you simply **substitute** the number in place of the variable and then follow the order of operations (PEMDAS: Parentheses, Exponents, Multiplication/Division, Addition/Subtraction).

For example, if you have the expression $4x + 2$ and you're told that $x = 3$, you would replace the x with 3:

$$4(3) + 2 = 12 + 2 = 14$$

So, the value of the expression is 14. Just remember, plug in the value carefully and take your time with each step.

Test your understanding with one last set of practice problems for this lesson! You can do this! Keep on pushing forward.



When you have completed the above lesson, click the next button in Canvas to progress.