

Algebra 1 - Structure of Algebraic Expressions - Worksheet

Common Core A-SSE.A.1a, A-SSE.A.1b · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

These 20 problems practice algebraic expressions (Common Core A-SSE.A.1). You will name terms, coefficients, and constants, evaluate and simplify expressions, and interpret what each part means in a real situation. The first problems are short skill checks, and the last six are word problems that need several steps. Work in order and show every line of your work, because a bare answer earns little credit on a test.

Algebra 1 · Common Core State Standards: **A-SSE.A.1a, A-SSE.A.1b**

Exercise 1 - Coefficient of x

Identify the coefficient of x in $6x+11$.

Exercise 2 - Count the terms

State how many terms are in $4a^2-3a+8$.

Exercise 3 - Name the constant

$$2x^2$$

$$- 9x$$

$$+ 14$$

The expression split into terms.

Identify the constant term of $2x^2-9x+14$.

Exercise 4 - Factors in a product

Name the two factors in the product $5(x-2)$.

Exercise 5 - Evaluate an expression

Evaluate $3x^2-2x+5$ when $x=-2$.

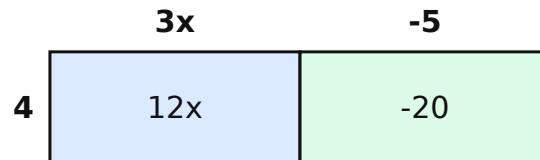
Exercise 6 - Pick the like terms

Identify the two like terms in this list: $5x$, $3y$, $-2x$, 7 , $4x^2$.

Exercise 7 - Combine like terms

Simplify $8x+3-5x+9$.

Exercise 8 - Distribute a number



Area model for $4(3x-5)$.

Use the distributive property to write $4(3x-5)$ without parentheses.

Exercise 9 - Distribute a negative

Simplify $-2(x-6)$.

Exercise 10 - Distribute and combine

Simplify $3(2x+1)+4x-7$.

Exercise 11 - Subtract an expression

Simplify $(7x+5)-(3x-2)$.

Exercise 12 - One quantity

Treat $(x-3)$ as a single quantity and simplify $2(x-3)+5(x-3)$. Leave the answer as a product.

Exercise 13 - Taxi fare meaning

Miles m	Fare $3.50 + 2.25m$
1	\$5.75
2	\$8.00
4	\$12.50

Fare table.

A taxi fare in dollars is $3.50 + 2.25m$, where m is the number of miles. Explain what 3.50 and 2.25 mean.

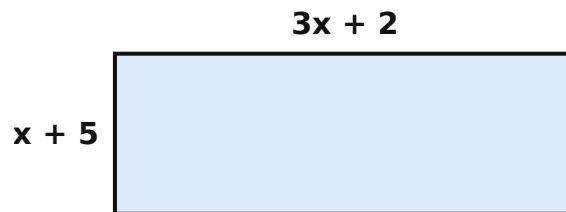
Exercise 14 - Write an expression

Write an expression for “5 less than 3 times a number n ”.

Exercise 15 - Gym membership

Priya pays a \$25 joining fee plus \$18 each month at a gym. Write an expression for her total cost after m months, then find the cost after 6 months.

Exercise 16 - Perimeter



A rectangular garden.

A rectangular garden has length $3x+2$ feet and width $x+5$ feet. Write a simplified expression for the perimeter, then find the perimeter when $x=4$.

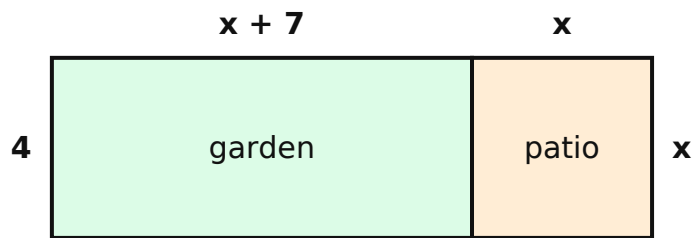
Exercise 17 - Bake sale

At a bake sale, Noah sells cookies for \$1.50 each and brownies for \$2.25 each. Write an expression for the money collected from c cookies and b brownies. Find the amount for 24 cookies and 18 brownies, and explain what $2.25b$ represents.

Exercise 18 - Sale price

A jacket regularly costs p dollars. At a sale the price is $0.85p+4$ dollars including shipping. Explain why $0.85p$ is a product, what discount it shows, and find the cost when $p=60$.

Exercise 19 - Patio area



Garden plus square patio.

A rectangular garden measures 4 feet by $x + 7$ feet. A square patio with side x feet is built next to it. Write a simplified expression for the total area, then find the area when $x = 5$ feet.

Exercise 20 - Compare two plans

Company A charges $4 + 2.5m$ dollars for m miles and Company B charges $1.5 + 3m$ dollars. Write a simplified expression for how much more A charges than B, then find the difference for a 3-mile trip.

Exercise 21 - Fundraiser tickets

A school fundraiser sells student tickets for \$6 and adult tickets for \$9. Maya writes $6s + 9a$ for the total. Her friend writes $3(2s + 3a)$. Show that the expressions are equivalent and find the total for 40 student and 25 adult tickets.