

Algebraic Expressions

An algebraic expression is a group of numbers, unknowns, and arithmetic operations, like $3x - 2y$. This one may be translated as, “3 times some number minus 2 times another number.” To *evaluate* an algebraic expression, replace each variable with its value. For example, if $x = 5$ and $y = 4$, we would evaluate $3x - 2y$ as follows:

$$3(5) - 2(4) = 15 - 8 = 7$$

Evaluate these expressions:

96. $4a + 3b$; $a = 2$ and $b = -1$

97. $-10j - r + 3jr$; $j = -7$ and $r = 4$

98. $-2x - \frac{1}{2}y + 4z$; $x = 5$, $y = -4$, and $z = 6$

99. The volume of a cylinder is given by the formula $V = \pi r^2 h$, where r is the radius of the base and h is the height of the cylinder. What is the volume of a cylinder with a base radius of 3 and a height of 4? (Leave π in your answer.)

100. If $x = 3$, what is the value of $3x - x$?