

Variables and Expressions

1. For each of the following indicate if it is a *variable* or an *expression*.

a. s b. $74t$ c. K d. x^2 e. xy f. zz

2. Write an algebraic expression for each verbal expression.

a. the sum of p and 9b. n divided by the sum of m and 10c. the product of r , s , and t d. a number x to the 7th powere. the sum of $4T$ and T cubedf. seven times y squaredg. a number s decreased by 10h. y increased by twice x i. a divided by the difference of a and 2.j. five-sixths of the square of a number y

3. Write as expressions using exponents.

a. $x \cdot x \cdot x \cdot x$	b. $45 \cdot y \cdot y \cdot y \cdot 45$	c. $b \cdot b \cdot b \cdot b \cdot b \cdot a \cdot a$
d. $(2m)(2m)(2m)$	e. $ststststst$	f. $5m \cdot 2m \cdot 3n$

4. Write a verbal expression for each algebraic expression.

a. $m + 2n$ b. $p^2 + 5$ c. $6xy$ d. $2k^{12}$ e. $\frac{a+c}{4}$ f. $\frac{1}{x-4}$ g. $40 - y$ h. $40 - y^3$

Expressions in parentheses are considered as one quantity.
You can read them using the word "quantity".

$3(x + y)$
"three times the quantity x plus y "

5. Write an algebraic expression for each verbal expression.

a. the product of the quantity x plus y and the quantity x minus y b. the difference of 100 and b divided by the quantity $2b$ plus 10c. the quotient of the quantity 5 minus T squared and T .d. $8a$ reduced by the quantity b plus c .e. n cubed increased by the quantity 6 minus n squaredf. two-thirds the quantity x squared minus y squared