

Translate words into an algebraic expression. (let  $N$  = the unknown number. )

The Sum of a number and 8

10 more than an unknown number.

20 increased by a number.

The difference of 2 and a number.

6 less than a number.

An unknown number decreased by 9.

The product of 5 and a number.

The ratio of 8 and a number.

Twice an unknown number.

The quotient between a number and 10.  
number.

25% of a number.

18 divided into an unknown

5 times the sum of a number and 15.

20 decreased by the difference  
of a number and 9.

The product between a number  
and 10 increased by 5.

The quotient of the sum of a  
number and 2 and the number.

The difference of twice a number  
and the square of the number.

30 less than the cube of the sum of  
1 and a number.

The ratio of the sum of a number and  
3 and the difference the number and 2.

The total of three consecutive  
integers.

10 subtracted from the product of  
5 and the sum of a number and 9.

Translate each sentence into an algebraic sentence. ( In each case let  $x$  equal the unknown number. )

15 is the sum of a number and 7.

12 more than the ratio of a number and the difference of the  
number and 2 is equal to the number.

The square of 8 less than a number is  
greater than 5 less than the number.

4 greater than 3 times a number is less than or equal to  
11 increased by twice the number.

**Evaluate** each expression when  $a = 2$ ,  $c = 5$  and  $d = 12$

1.  $3a - \frac{c}{5} + d$

2.  $4(d - 2c)^3 + 1$

3.  $\frac{10d - 4}{2a} - (c + 1)^2$

Which of the following values for the variable are solutions to each equation or inequality: 2, 3, 4, 5

4.  $10x - 6 = 8x + 4$

5.  $8x - 2x^2 = 12 - 2x$

6.  $\frac{6x - 9}{25} = \frac{3}{x + 1}$