

Answer on Question #60635 – Math – Algebra

Question

Expand the brackets in the expression $(5 - 3t)(5 + 3t)$

What is the coefficient of t^2 ?

What is the coefficient of t ?

What is the constant term?

Solution

The first objective of the task is to expand the brackets in the expression

$$(5 - 3t)(5 + 3t)$$

We multiply two expressions term by term:

$$(5 - 3t)(5 + 3t) = 5 \cdot 5 + 5 \cdot 3t - 3t \cdot 5 - 3t \cdot 3t = 25 + 15t - 15t - 9t^2$$

Then we need to simplify the obtained formula by combining like terms:

$$25 + 15t - 15t - 9t^2 = 25 - 9t^2$$

Based on the result, the coefficient of t^2 is equal to -9 , the coefficient of t is equal to 0 , the constant term is 25 .

The equation containing a single variable of degree 2 can be represented in the general form $ax^2 + bx + c$, where x is the variable and a , b , and c are constants ($a \neq 0$). In our case, the coefficient a is equal to -9 , the coefficient b is equal to 0 and the coefficient c is equal to 25 .

Answer: $25 - 9t^2$; -9 ; 0 ; 25 .