24. QUADRATIC EQUATIONS

AN EQUATION IN ONE UNKNOWN WICH CONTAINS AT LEAST ONE TERM OF THE SECOND POWER, AND NO HIGHER POWER, IS CALLED A QUADRATIC EQUATION, OR AN EQUATION OF THE SECOND DEGREE.

AREA = PRODUCT OF BASE x ALTITUDE

PROBLEM: $8\,ft^2$ (AREA) LENGHT = WIDTH + 2

(ALTITUDE x BASE) = AREA $x(x+2) = 8$

$(x \times x) + (2x) = 8$ $x^2 + 2x = 8$

SUCH EQUATION CAN BE SOLVED BY TRIAL AS IT FOLLOWS: $x^2 6$

VALUE OF x	LEFT SIDE	RIGHT SIDE	LEFT = RIGHT?
1	$1 \times 1 + 2 \times 1 = 3$	8	NO
2	$2 \times 2 + 2 \times 2 = 8$	8	YES
3	$3 \times 3 + 3 \times 3 = 15$	8	NO
-1	$(-1)(-1) + 2(-1) = -1$	8	NO
-2	$(-2)(-2) + 2(-2) = 0$	8	NO
-3	$(-3)(-3) + 2(-3) = 3$	8	NO
-4	$(-4)(-4) + 2(-4) = 8$	8	YES
-5	$(-5)(-5) + 2(-5) = 15$	8	NO

THEREFORE 2 AND -4 ARE VALUES OF THE LETTER THAT MAKE BOTH SIDES HAVE THE SAME NUMBER VALUE. INCIDENTLY VALUES OF THE UNKNOWN WICH SATISFY THE EQUATION, i.e MAKE BOTH SIDES OF THE EQUATION EQUAL, ARE CALLED ROOTS OF THE EQUATION. IF ONE SIDE IS -4, AND THE OTHER -2, THE AREA IS 8, THE NEGATIVE SIGNS MERELY INDICATES DIRECTION.

→ DOES (-) SIGN REALLY MEANS DIRECTION?

SOLUTIONS BY TRIAL AND ERROR ARE AN EXPENSIVE TYPE OF PROCESS, FROM THE POINT OF VIEW OF TIME AND EFFORT CONSUMED. THERE ARE WAYS TO DO IT FASTER & BETTER.

25. ALGEBRAIC POLYNOMIALS. 21/11/2017

TO DO SO WE WILL CONSIDER SOME PROPERTIES OF ALGEBRAIC EXPRESSIONS WICH ARE SUMS OR DIFFERENCES OF TERMS SUCH AS $x+3$, $x-5$, x^2-9 AND $x^2+8x+15$. THE FIRST THREE EXPRESSIONS ARE CALLED BINOMIALS SINCE EACH CONTAINS TWO TERMS. THE LAST EXPRESSION IS CALLED A TRINOMIAL SINCE IT CONTAINS THREE TERMS. IF AN EXPRESSION CONTAINS TWO OR MORE TERMS, IT IS CALLED

2026/10/14