

# The City School

North Nazimabad Boys Campus



E-Worksheet

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Class: 8

Subject: Mathematics

Date: 17<sup>th</sup>

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Topic: Expansion and Factorisation of algebraic expressions

**Q1:** Given that  $x=3$  is one solution of the equation  $2x^2 + px = 15$ , calculate the value of  $p$  and hence find other solution.

**Q2:** The product of two numbers is 154. If the difference between the two numbers is 3, find the numbers.

**Q3:** The sum of a number and twice its square is 36. Find the number.

**Q4:** The sum of the squares of two consecutive even integers is 340. Find the two numbers.

**Q5:** The sum of the squares of three consecutive positive numbers is 245. Find the largest number.

**Q6:** The sides of a rectangle are of lengths  $(2x+10)$ cm and  $(3x+1)$ cm. The area of the rectangle is  $117\text{cm}^2$ . Find  $x$  and the perimeter of the rectangle.

**Q8:** Find two positive whole numbers which differ by 5 and where the sum of their squares is 193.

**Q9:** Factorise each of the following:

- $a(b-c) + bc - a^2$
- $a^2 - 1 + ab + 3ac$
- $(x+5)(x-1) + 5a + ax$
- $3xy + 6y - 5x - 10$
- $2x + kx$
- $(x^2 + 3)(2x - 4)$
- $(ab - 5)(ab + 8)$

