**MATHEMATICS PROJECT**

**CLASS: 9**

**TOPIC: FACTORISATION OF QUADRATIC POLYNOMIALS**

**OBJECTIVE:** Learning geometrical representation of the factorization of the following quadratic polynomials.

**PRE-ACQUIRED KNOWLEDGE:**

1. Splitting the middle term of a quadratic polynomial
2. Formula for the area of a square and of a rectangle

**MATERIAL REQUIRED:**

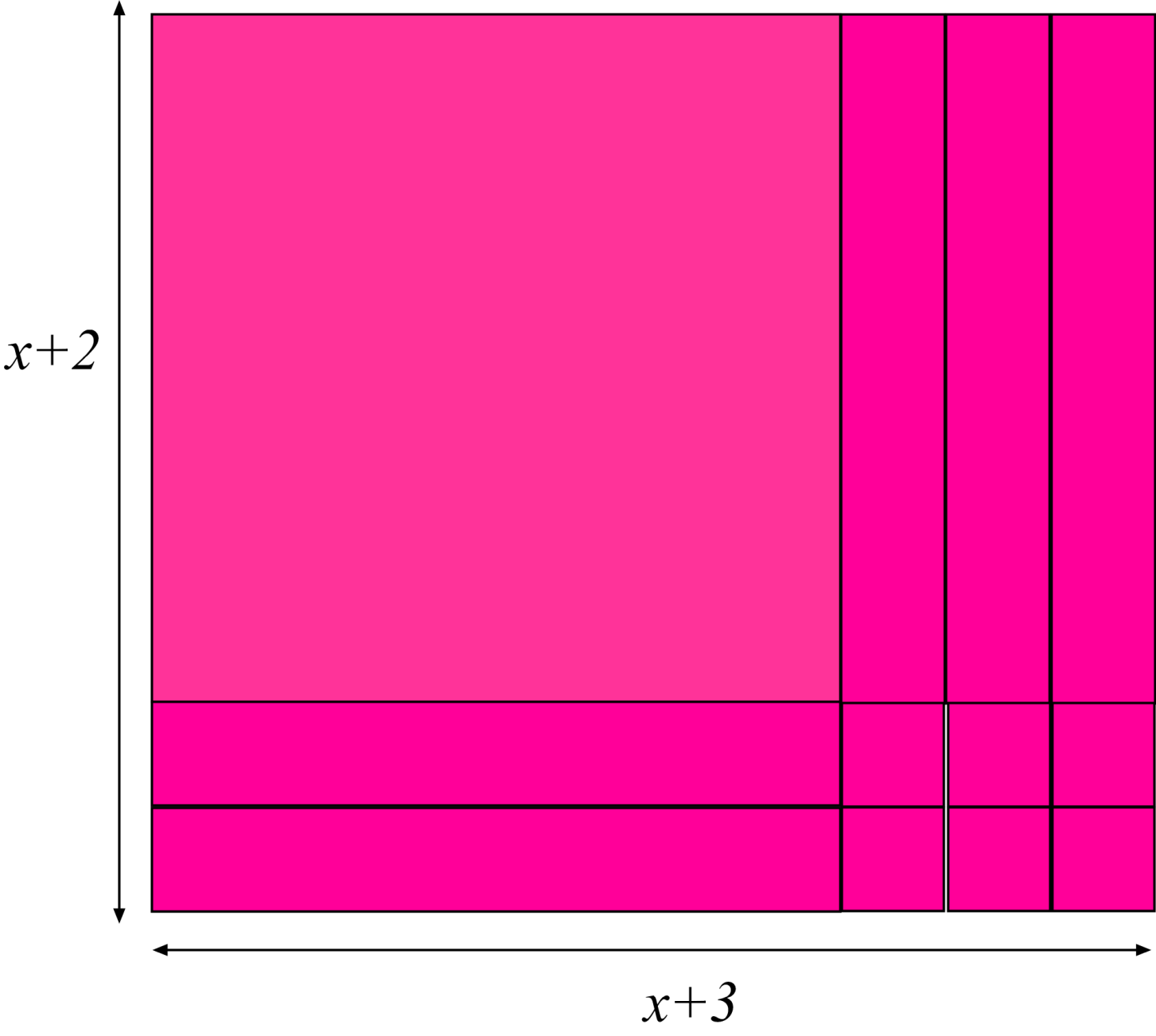
1. Pink and blue coloured chart papers
2. White sheets of paper
3. Geometry box
4. Pair of scissors
5. Fevistick/gum
6. Mathematics Project File and File papers

**PLANNING:**

1. Every will be represented by the area of a pink square of side units as shown in the figure
2. Thus to represent we use two pink squares of side units each.
3. Every will be represented by a pink rectangular strip of dimensions as shown in the adjoining figure. Thus to represent we use 5 rectangular strips of dimensions each.
4. Every will be represented by a blue rectangular strip of dimensions as shown in the adjoining figure. Thus to represent we use 3 rectangular strips of dimensions each.
5. All positive integers will be represented by blue unit squares as shown in the adjoining figure. Thus to represent 6, we use 6 pink unit squares.
6. All negative integers will be represented by pink unit squares as shown in the adjoining figure. Thus to represent , we use 6 blue unit squares.
7. Blue strips and blue unit squares means to cut off the area equal to the area of these pieces.

**PROCEDURE:**

1. Factorisation of .
2. The polynomial can be written as
3. To represent , take a pink square of side units, to represent 3 take 3 pink rectangular strips of dimensions of units each; to represent take 2 pink rectangular strips of dimensions units each and to represent 6 take 6 pink unit squares.
4. Thus to represent paste all the above pieces on a white sheet of paper as shown.



**RESULT:**

We observe that the area of the rectangle is and hence

CAN YOU DO THE REST YOURSELF?