

ACTIVITY - 14

TOPIC: ALGEBRAIC EXPRESSIONS

TITLE: ADDITION OF TWO ALGEBRAIC EXPRESSIONS

1. **What we have to do?**

To enumerate the sum of two algebraic expressions using different strips.

2. **What is required?**

Coloured papers, pencil box and adhesive

3. **How much time is required?**

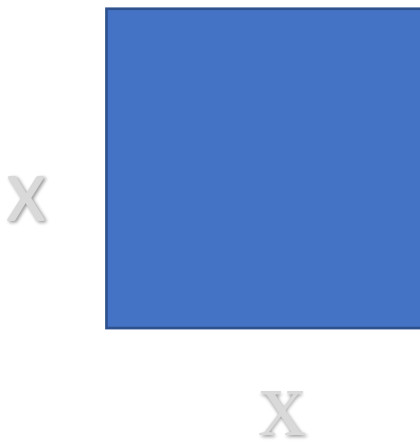
30 – 40 minutes

4. **What do you need to know?**

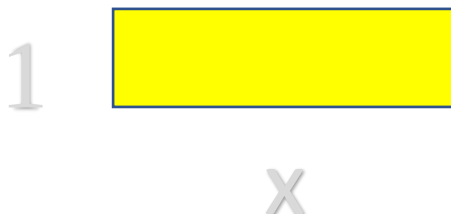
Knowledge of Constants, variables, basic operations and algebraic expressions.

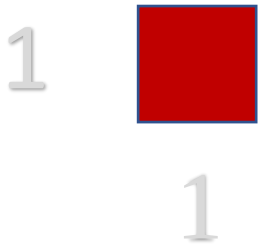
5. **How will you proceed?**

- Take three papers of different colours (blue, yellow and red).
- Make sufficiently large square (strip) of side x unit on blue paper and cut it as shown below:

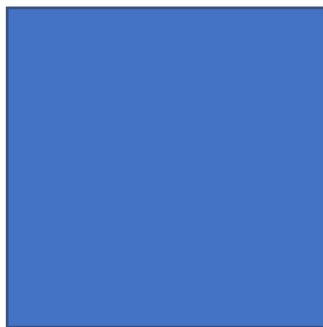


- Similarly, draw rectangle of dimension $(x \times 1)$ using yellow paper and unit square using red paper respectively, as shown below:





- d. To represent the algebraic expression $4x^2 + 3x + 2$, arrange the strips as shown below:



(= $4x^2$)

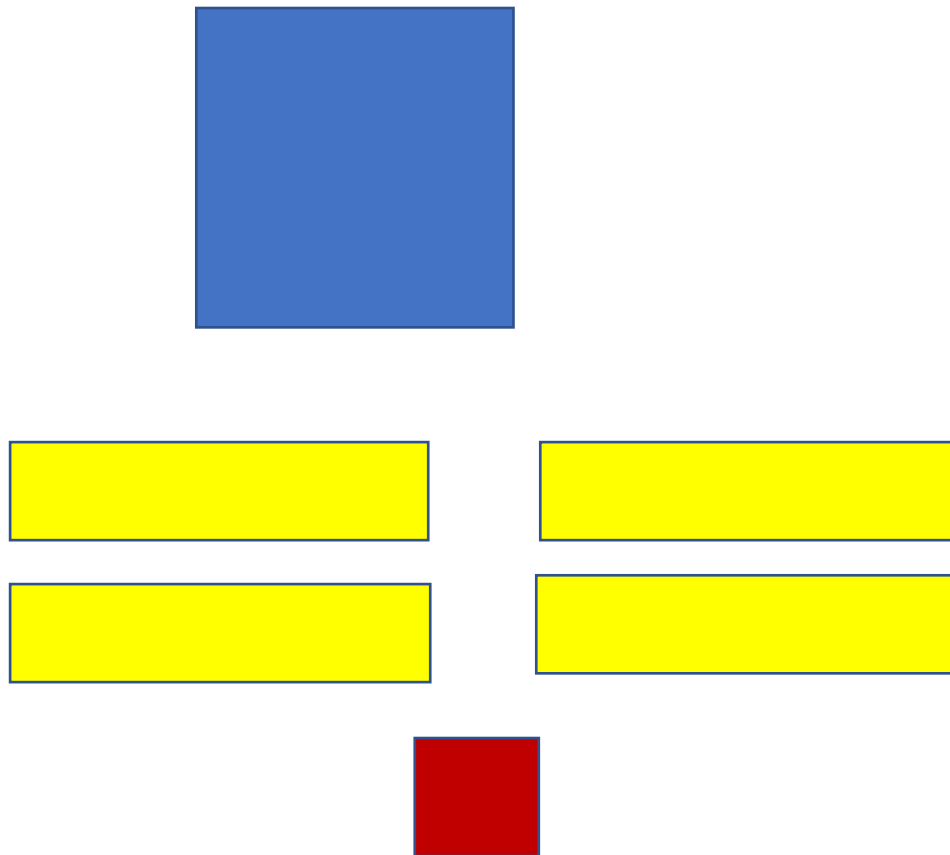


(= $3x$)

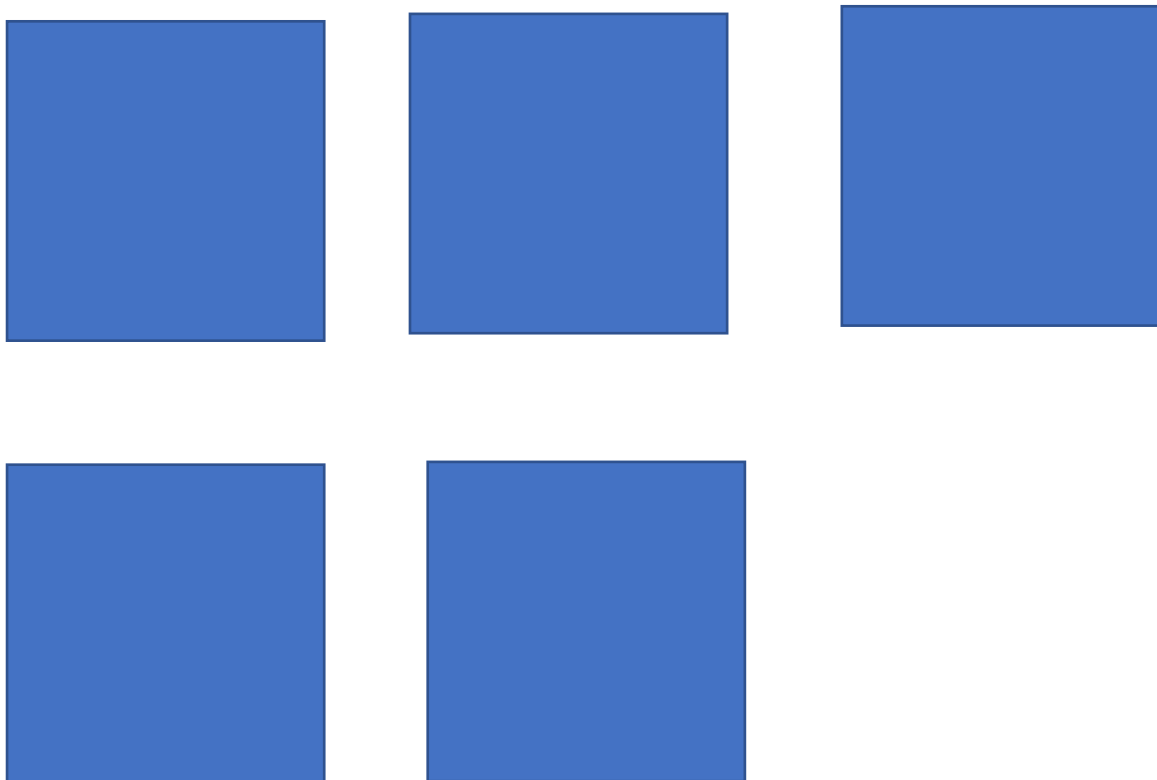


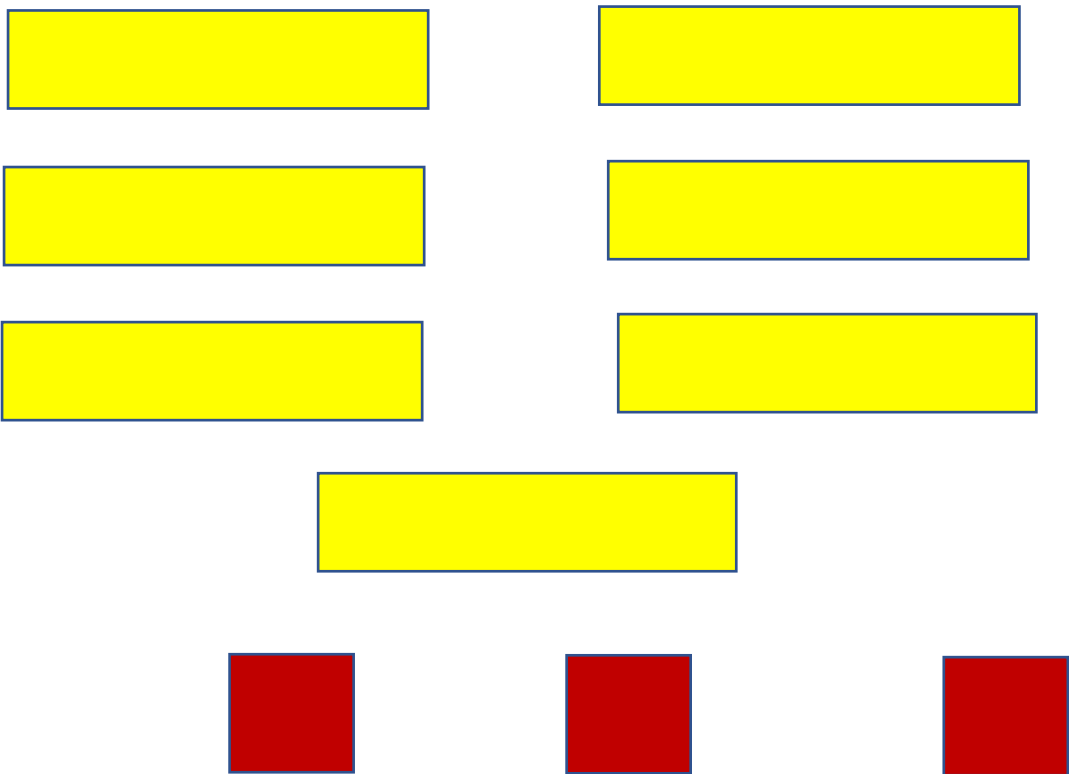
(= 2)

- e. Similarly, represent the algebraic expression $x^2 + 4x + 1$ as follows:



- f. To add the above two expressions, combine the strips of step 5(d) and step 5(e) as shown below:





- g. Count the strips of each colour to represent the sum of two algebraic expressions mentioned above.

6. **What have you observed?**

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	Step5(d)	Step5(e)	Step5(f)
Number of blue strips			
Number of yellow strips			
Number of red strips			

- $(4x^2 + 3x + 2) + (x^2 + 4x + 1) = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}.$

7. **What have you learnt?**

8. **Extended Activity**

- a) Three sides of a triangle are $4p^2 + p + 2$, $2p^2 + 3p + 1$ and $p^2 + 2p + 4$. Find the perimeter.
- b) If in your veranda there are y pink plants and 5 more white plants than the pink plants. And, you further planted 6 more pink plants and 3 white plants. How many plants are there in your veranda now?

Real life Applications:

The above concept is used in our day-to-day life incidents viz. etc.... calculating distance, analyzing news, in banking operations, shopping mall, sports etc...