Algebra Unit I
Algebraic Expressions : An Introduction

Solutions: [Check your understanding]

a. A basket contains 'n' number of flowers. What is the algebraic expression that would describe 5 such baskets with 2 extra flowers?

Solution: 5 baskets with n flowers = $5n$

2 extra flowers → '+2'

The algebraic expression : $5n + 2$

b. A box of pencil has 'p' number of pencils. What is the algebraic expression that would describe 8 full such boxes with 5 extra pencils?

Solution: 8 boxes with p number of pencils = $8p$

5 extra pencils → '+5'

The algebraic expression : $8p + 5$

c. A bag contains some number of plastic balls. What is the algebraic expression that would describe 15 such bags with 8 extra balls? (***Note:*** *In this question the letter for the number of balls in each bag is not given. You need to assign a letter by yourself and create the expression*)

Solution: Let the number of balls in each bag be n.

15 such bags would have 15 n balls

With 8 extra balls, the expression would be $15n + 8$

d. What is the algebraic expression for 20 boxes of coke bottles with 17 extra bottles of coke, where, each box contains same number of coke bottles?

Solution: Let the number of coke bottles in each box be x.

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20 such boxes would have $20x$ coke bottles

With 17 extra bottles, the expression for total number of coke bottles would be $20x + 17$

e. Create an appropriate situation for the algebraic expression $10t + 2$.

Solution: (*Answer can have any situation*) where there are 10 boxes of t items each with 2 extra items.

f. What does $25x + 4$ mean?

Solution: 25 sets of x items in each with 4 extra items.

g. How would you describe the expression $8m - 3$?

Solution: 8 sets of m items in each out of which 3 items are removed.

h. Which of the following could be mathematically as an algebraic expression in the form $ax + b$?

(i) I have 16 kgs of apples with extra 3 kgs of apples

(ii) I have 16 kgs of apples with extra 3 apples.

Solution:

(i) This is just 19 kgs of apples in total and hence there is no mathematical expression possible.

(ii) This gives total number of apples for 16 kgs with 3 extra apple and it can be expressed as $16x + 3$ where x is the number of apples in one kg of apples.

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