

FUNDAMENTAL CONCEPTS

SUBJECT : MATHEMATICS

CHAPTER NUMBER:18

CHAPTER NAME: FUNDAMENTAL CONCEPTS

SUBTOPIC :Algebra, Signs and Symbols, Writing a given statement in Algebraic form

PERIOD NO: 1

CHANGING YOUR TOMORROW

Learning outcomes

- Students will be able to write a given statement in algebraic form.
- Students will be able to write a given algebraic form in suitable statement.
- Students will develop application skill.

FUNDAMENTAL CONSEPTS

- Students will Learn fundamental concepts of algebra with the help of a video .
- <https://www.youtube.com/watch?v=Hs6zRAOQ6LA>(9.27)

FUNDAMENTAL CONCEPTS

Constant : A symbol having a fixed numerical value is called a constant.

OR

The number before an alphabet (variable) is called a constant.

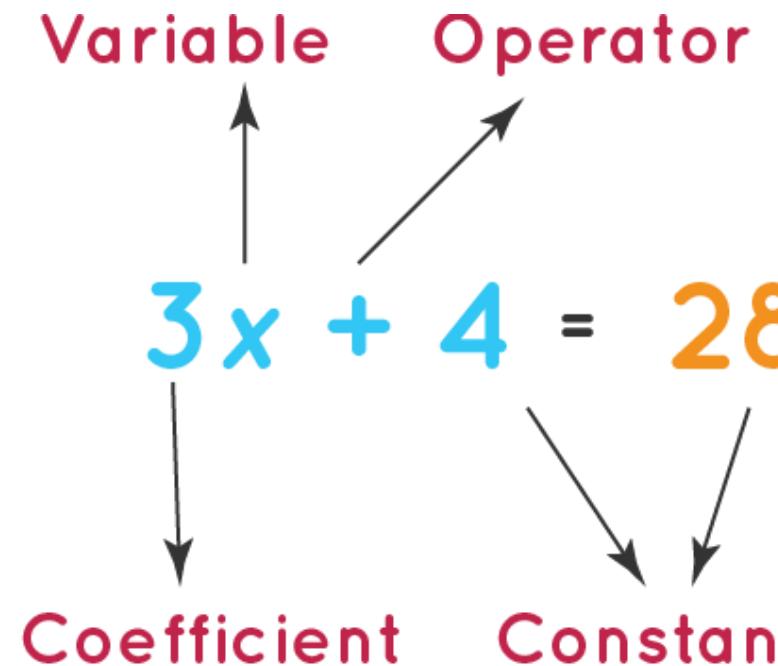
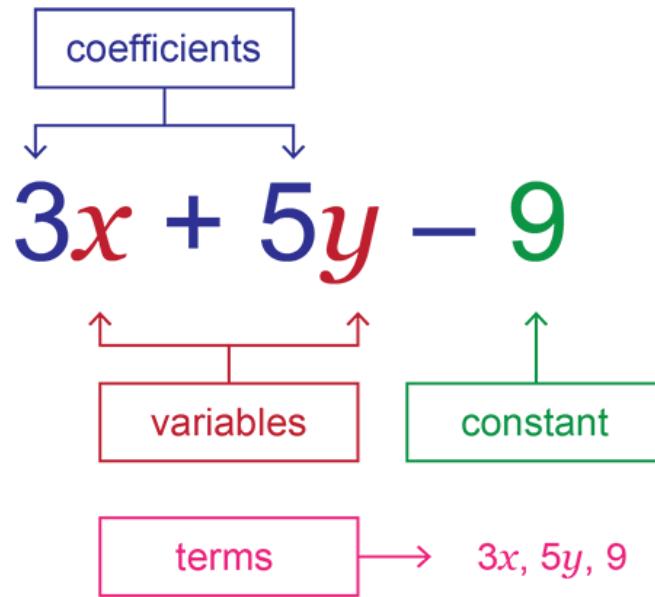
Variable : A symbol which takes various numerical values is called a variable.

OR

The alphabet after a number (constant) is called a variable.

In the formulas $d = 2r$; 2 is a constant whereas, r and d are variables.

FUNDAMENTAL CONCEPTS



Evaluation Question EX-10 E

1. Express each of the following statements in algebraic form:

- (i) The sum of 8 and x is equal to y .
- (ii) x decreased by 5 is equal to y .
- (iii) The sum of 2 and x is greater than y .
- (iv) The sum of x and y is less than 24.
- (v) 15 multiplied by m gives $3n$.
- (vi) Product of 8 and y is equal to $3x$.
- (vii) 30 divided by b is equal to p .

Evaluation Question

- (viii) z decreased by $3x$ is equal to y .
- (ix) 12 times of x is equal to $5z$.
- (x) 12 times of x is greater than $5z$.
- (xi) 12 times of x is less than $5z$.
- (xii) $3z$ subtracted from 45 is equal to y .
- (xiii) $8x$ divided by y is equal to $2z$.
- (xiv) $7y$ subtracted from $5x$ gives $8z$.
- (xv) $7y$ decreased by $5x$ gives $8z$.

Evaluation Question

Solution:

(i) The sum of 8 and x is equal to y in algebraic form is written as,

$$8 + x = y$$

(ii) x decreased by 5 is equal to y in algebraic form is written as,

$$x - 5 = y$$

(iii) The sum of 2 and x is greater than y in algebraic form is written as,

$$2 + x > y$$

(iv) The sum of x and y is less than 24 in algebraic form is written as,

$$x + y < 24$$

(v) 15 multiplied by m gives 3n in algebraic form is written as,

$$15 \times m = 3n$$

Evaluation Question

(vi) Product of 8 and y is equal to 3x in algebraic form is written as,

$$8 \times y = 3x$$

(vii) 30 divided by b is equal to p in algebraic form is written as,

$$30 \div b = p$$

(viii) z decreased by 3x is equal to y in algebraic form is written as,

$$z - 3x = y$$

(ix) 12 times of x is equal to 5z in algebraic form is written as,

$$12 \times x = 5z$$

(x) 12 times of x is greater than 5z in algebraic form is written as,

$$12 \times x > 5z$$

Evaluation Question

(xi) 12 times of x is less than 5z in algebraic form is written as,

$$12 \times x < 5z$$

(xii) 3z subtracted from 45 is equal to y in algebraic form is written as,

$$45 - 3z = y$$

(xiii) 8x divided by y is equal to 2z in algebraic form is written as,

$$8x \div y = 2z$$

(xiv) 7y subtracted from 5x gives 8z in algebraic form is written as,

$$5x - 7y = 8z$$

(xv) 7y decreased by 5x gives 8z in algebraic form is written as,

Evaluation Question

2. For each of the following algebraic expressions, write a suitable statement in words:

(i) $3x + 8 = 1$ (ii) $7 - y > x$

(iii) $2y - x < 12$ (iv) $5 \div z = 5$

(v) $a + 2b > 18$ (vi) $2x - 3y = 16$

(vii) $3a - 4b > 14$ (viii) $b + 7a < 21$

(ix) $(16 + 2a) - x > 25$ (x) $(3x + 12) - y < 3a$

Evaluation Question

Solution:

(i) The algebraic expression $3x + 8 = 15$ in words is expressed as,

3x plus 8 is equal to 15

(ii) The algebraic expression $7 - y > x$ in words is expressed as,

7 decreased by y is greater than x

(iii) The algebraic expression $2y - x < 12$ in words is expressed as,

2y decreased by x is less than 12

(iv) The algebraic expression $5 \div z = 5$ in words is expressed as,

5 divided by z is equal to 5

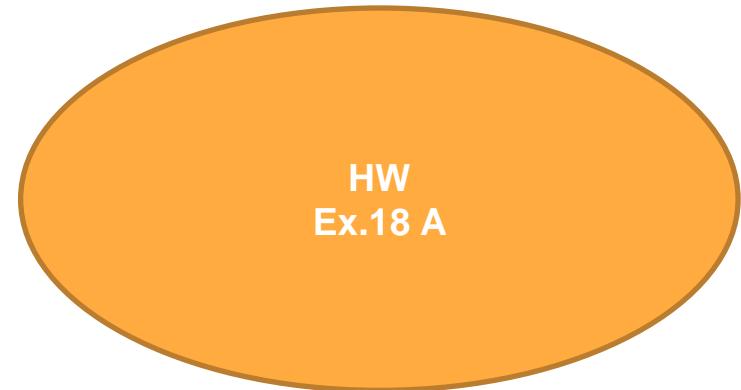
(v) The algebraic expression $a + 2b > 18$ in words is expressed as,

a increased by 2b is greater than 18

Additional Homework

1. Write the following using numbers, literals and signs of basic operations:

- (i) The sum of 6 and x.
- (ii) 3 more than a number y.
- (iii) One-third of a number x.
- (iv) One-half of the sum of number x and y.
- (v) Number y less than a number 7.
- (vi) 7 taken away from x.



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