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Making Youth Employable Through Skill Development

Manglam City, Govindpura, Kalwar Road, Jhotwara, JAIPUR

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Algebraic Expressions and Terms



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Expressions

You are familiar with the following type of numerical expressions:

$$12 + 6$$

$$3 (12)$$

$$6 (3 + 2)$$

$$15 - 4 (6)$$



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What is a variable?

In the expression $12 + B$, the letter “B” is a variable.

A **variable** is a letter or symbol that represents an unknown value.



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Algebraic Expressions

When variables are used with other numbers, parentheses, or operations, they create an **algebraic expression**.

$$a + 2$$

$$(a) (b)$$

$$3m + 6n - 6$$



What are coefficients?

A **coefficient** is the number multiplied by the variable in an algebraic expression.

Algebraic Expression

Coefficient

$$6m + 5$$

6

$$8r + 7m + 4$$

8, 7

$$14b - 8$$

14



What is a term ?

A **term** is the name given to a number, a variable, or a number and a variable combined by multiplication or division.

Algebraic Expressions

$$a + 2$$

$$3m + 6n - 6$$

Terms

$$a, 2$$

$$3m, 6n, - 6$$



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What are constants?

- A constant is a number that cannot change its value.

In the expression: $5x + 7y - 2$
the constant is - 2.



Figure it out !

Identify the terms, coefficients, and constants.

1. $12a - 6b + 4$

2. $4x - 2y$

3. $c - 32$

4. $3x + 2$



Writing Algebraic Expressions

- You can translate word phrases into variable expressions.
 - Examples:
 1. Three more than a number = $x + 3$
 2. The quotient of a number and 8 = $y/8$
 3. Six times a number = $6 \times n$ or $6n$
 4. 15 less than a number = $z - 15$
 5. The quotient of 30 and a number plus 10 = $30/x + 10$.



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Key words to look for :

- Addition:

- Add
- Plus
- Sum
- Total
- Increased by
- More than

- Subtraction:

- Minus
- Difference
- Subtract
- Less than
- Decreased by
- less



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Key words to look for :

- Multiplication
 - Product
 - Times
 - Multiply
- Division
 - Quotient
 - divide



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Write algebraic expressions for these word phrases

1. Four more than s
2. The product of 7 and c
3. Nine less than x
4. A number divided by the sum of 4 and 7.
5. Twice the sum of a number plus 4.
6. The sum of $\frac{3}{4}$ of a number and 7.
7. Ten times a number increased by 150.



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The End

Thanks