

# Incoming 7th Grade Math

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## Summer Learning Packet



Name: \_\_\_\_\_

\*Use the reference sheets provided (page prior to work page) to help in answering questions\*

## Identifying Parts of an Expression

**Term**= A number, variable, product, or quotient in an expression. A term is not a sum or difference. Example: In the expression  $9k^2 + 4m + 3$ , the terms are:  $9k^2$ ,  $4m$ , and  $3$ .

**Coefficient**= A numerical factor in a term of an algebraic expression. In other words, a coefficient is a number used to multiply a variable. Example:  $4$  is a coefficient in the expression  $4z + 7$ . If a variable is by itself, the coefficient of it equals  $1$ , like in the expression  $m + 9$ .

**Constant**= A number with a value that is always the same. Example:  $19$  is a constant in the expression  $8n + 19$

**Variable**= a letter representing a numerical value Example:  $3x + 2y - 5$ . The variables are  $x$  and  $y$

**Exponent**= a quantity representing the power to which a given number or expression is to be raised Example:  $3x^2 + 5$  The  $2$  is the exponent

★ use this to help with next page

**1**

Name the underlined part

Example:  $6x^2 + 3y + \underline{16}$   
16 is a constant

**2**

Identify the coefficients

$$8 + 3z + 7b + 13$$

**3**

Identify the terms

$$90 + 18w + 3h + 14$$

**4**

Name the underlined part

$$\underline{r} + 10x^2 + 4d^3 + 3$$

**5**

Identify the exponents

$$t^2 + 8 + p^3 + u^5$$

**6**

Identify the constants

$$12n + 7 + 13k^4 + 4 + 39z$$

**7**

Name the underlined part

$$50 + 23z + \underline{3f} + 17$$

**8**

Identify the terms

$$5y + 87 + 15z + 2$$

**9**

Name the underlined part

$$18x + j + 45 + \underline{1^8}$$

**10**

Identify the coefficients

$$7x + 90 + 67y^2 + 11p + 1$$

# Operation CLUE WORDS

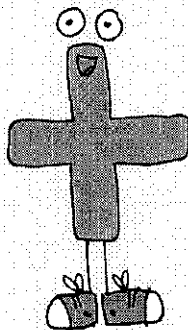
Remember, read each question carefully.

THINK about what the question is asking.

★ Use this to help with next page ★

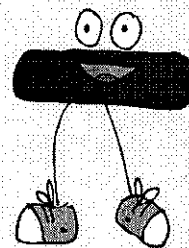
## Addition

- . add
- . altogether
- . and
- . both
- . in all
- . sum
- . total
- . increase

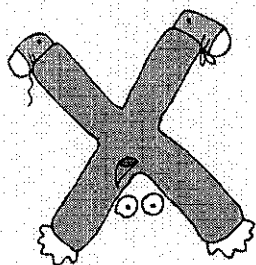


## Subtraction

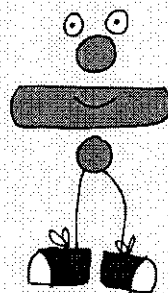
- . difference
- . fewer
- . gave away
- . take away
- . how many more
- . how much longer/shorter/smaller
- . left
- . less
- . change
- . decrease



## Multiplication



- . each
- . same
- . twice
- . product
- . in all (each)
- . double



## Division

- . share equally
- . each
- . quotient
- . every

# Translating Linear Phrases

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Translate each phrase into a linear expression.

Example:  
11) Two-fifth of  $x$   
          ↑  
      multiply

$$\frac{2}{5} \cdot x \text{ or } \frac{2}{5} x$$

12) 8 added to three times  $n$

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13) 6 multiplied by  $t$

---

14) Subtract 10 from  $b$

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15)  $c$  increased by 4

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16) The difference of 20 and  $y$

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17) 7 times  $p$

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★ use this to help with the next page

## Solving One-Step EQUATIONS – Addition/Subtraction

- An equation is a math sentence that **DOES** contain an equal sign.
- The goal of solving an equation is to **find the value of the variable**.
  - We do this by **isolating** the variable on one side of the equation using **Inverse Operations!**
    - **Inverse operations** “undo” each other!

Inverse of addition?

subtraction

Inverse of subtraction?

addition

### Let's Practice!

$$\begin{array}{r} 1. \quad x + 2 = 10 \\ \boxed{-2} \quad \boxed{-2} \\ \hline \end{array}$$

$$x + 0 = \boxed{8}$$

Check:

$$\boxed{x = 8}$$

$$8 + 2 = 10 \checkmark$$

$$\begin{array}{r} 2. \quad y - 8 = 15 \\ \boxed{+8} \quad \boxed{+8} \\ \hline \end{array}$$

$$y - 0 = \boxed{23}$$

Check:

$$\boxed{y = 23}$$

$$23 - 8 = 15 \checkmark$$

$$\begin{array}{r} 3. \quad a + 9 = 2 \\ \boxed{-9} \quad \boxed{-9} \\ \hline \end{array}$$

$$a + 0 = \boxed{-7}$$

Check:

$$\boxed{a = -7}$$

$$-7 + 9 = 2 \checkmark$$

Solve

example 1)  $x + 7 = 18$   
 $\quad \quad \quad -7 \quad \quad -7$   

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 $\quad \quad \quad x = 11$

Check  $11 + 7 = 18 \checkmark$

2)  $a - 15 = 22$

3)  $83 = y - 17$

4)  $c - 3 = 6$

5)  $x + 8 = 18$

6)  $y - 5 = 4$

7)  $6 + z = 10$

8)  $p - 5 = 15$

9)  $4 + m = 12$

10)  $g + 44 = 50$

11)  $x - 9 = 2$

12)  $a + 10 = 17$