Algebraic Expression: an expression that may contain numbers, operations, and one or more symbols.

① Terms: The parts of the algebraic expression.

Coefficient: The number that contains a variable

Constant: A term without a variable

Example

$5p + 4$ ← constant

Coefficient: $5p$

Terms: $5p$, 4

1) $12 + 10c$
T = 12, 10c
Coe = 10
Con = 12

2) $15 + 3w + \frac{1}{2}$
T = 15, 3w, ½
Coe = 3
Con = 15, ½

3) $z^2 + 9z$
T = z^2, 9z
Coe = 9, 1
Con = none

② Writing Algebraic Expressions Using Exponents

a) $d \cdot d \cdot d \cdot d = d^4$

b) $1.5 \cdot h \cdot h \cdot h = 1.5h^3$

c) $j \cdot j \cdot j \cdot j \cdot j \cdot j = j^6$

d) $9 \cdot K \cdot K \cdot K \cdot K = 9K^4$

③ Evaluate

a) $K + 10$ when $K = 25$
$25 + 10 = 35$

b) $4n$ when $n = 12$
$4 \cdot 12 = 48$

c) $24 + C$ when $C = 9$
$24 + 9 = 33$

d) $d - 17$ when $d = 30$
$30 - 17 = 13$

3.1 Algebraic Expressions

(4) Evaluate with two variables

$a \div b \qquad a = 16 \qquad b = 2/3$

$\frac{16}{1} \div \frac{2}{3} \Rightarrow \frac{16^{8}}{1} \times \frac{3}{2_{1}} = 24$

Try it! $p = 24 \qquad q = 8$

1) $p \div q$ $\quad 24 \div 8 = 3$

2) $q + p$ $\quad 8 + 24 = 32$

3) $p - q$ $\quad 24 - 8 = 16$

4) pq $\quad 24 \cdot 8 = 192$

(5) Evaluate with two operations

$3x - 14$ when $x = 5$

$3 \cdot 5 = 14$

$15 - 14 = 1$

Try it! $y = 6$

1) $5y + 1$

$5(6) + 1$

31

2) $30 - 24 \div y$

$30 - 24 \div 6$

26

3) $y^2 - 7$

$6^2 - 7$

$36 - 7 = 29$

4) $1.5 + y^2$

$1.5 + 6^2$

$1.5 + 36$

37.5