

## 1. 상용로그

밑수가 10인 로그. $\log A$ 로 표시

## 2. 지표, 가수

$$\log A = n + \alpha \quad (n \text{은 정수}, 0 \leq \alpha < 1)$$

$$\log A = 2 \cdot 3 \dots n = 2, \alpha = 0.3$$

$$\log A = \sqrt{3} \dots n = 1, \alpha = \sqrt{3} - 1$$

$$\log A = \frac{7}{3} \dots n = 2, \alpha = \frac{1}{3}$$

$$\log A = -2 \cdot 3 \dots n = -3(\bar{3}), \alpha = 0.7$$

$$-2 - 0.3 = -3 + 0.7 = \bar{3}, 7$$

$$\log A = -\frac{5}{3} \dots n = -2 (\bar{2}), \alpha = -\frac{5}{3} - (-2) = \frac{1}{3}$$

## 예제1

$$\log x = n + \alpha \quad (n \text{은 정수 } 0 \leq \alpha < 1) \text{ 일 때}$$

$$\log x^2, \log x^3, \log \frac{1}{x} \text{의 지표, 가수 ?}$$

$$(1) \log x^2 = 2 \log x = 2(n + \alpha) = 2n + 2\alpha \rightarrow 0 \leq 2\alpha < 2$$

$$\text{i) } 0 \leq 2\alpha < 1 :$$

$$\text{ii) } 1 \leq 2\alpha < 2 :$$

$$(2) \log x^3 = 3 \log x = 3n + 3\alpha \quad 0 \leq 3\alpha < 3$$

$$\text{i) } 0 \leq 3\alpha < 1 :$$

$$\text{ii) } 1 \leq 3\alpha < 2 :$$

$$\text{iii) } 2 \leq 3\alpha < 3 :$$

$$(3) \log \frac{1}{x} = \log x^{-1} = -\log x = -n - \alpha$$

$$\text{i) } \alpha = 0 :$$

$$\text{ii) } 0 < \alpha < 1 :$$

## 예제2

$$\bar{1.4256} + \bar{3.7233}$$

$$= -1 + 0.4256 - 3 + 0.7233 = -4 + (0.4256 + 0.7233)$$

$$= -4 + 1.1489 = \bar{3.1489}$$

$$\bar{3.4263} - \bar{2.2573} = -3 + 0.4263 - \{-2 + 0.2573\}$$

$$= -1 + (0.4263 - 0.2573) = -1 + 0.1690 = \bar{1.1690}$$

## 예제3

$$\bar{2.3751} \times 4 = (-2 + 0.3751)4 = -8 + 1.5004 = \bar{7.5004}$$

## 예제4

$$\bar{3.2564} \div 2 = (-3 + 0.2564) \div 2 = (-4 + 1.2564) \div 2$$

$$= -2 + 0.6282 = \bar{2.6282}$$