

1. 다음 중에서 곱셈 기호를 생략하여 나타낸 것으로 옳은 것은?

① $a \times a \times b = 2ab$

② $x \times y \times 1 = 1xy$

③ $a \times b \times 0.1 = 0.1ab$

④ $x \times y \times 3 = xy3$

⑤ $a \times b \times c \times (-1) = -1abc$

해설

① $a \times a \times b = a^2b$

② $x \times y \times 1 = xy$

④ $x \times y \times 3 = 3xy$

⑤ $a \times b \times c \times (-1) = -abc$

2. $a = 3$, $b = -5$ 일 때, $2a + 4b$ 의 값은?

① -4

② -12

③ -14

④ 6

⑤ 16

해설

$$2a + 4b = 2 \times 3 + 4 \times (-5) = 6 + (-20) = -14$$

3. $(-3) \times x \times x \times y \times x \times z$ 를 곱셈 기호를 생략하여 나타내면?

- ① $-3x^2yz$
- ② $-3xyz$
- ③ $-3x^3yz$
- ④ $(-3x^3) + y + z$
- ⑤ $(-3x)^2 + yz$

해설

곱셈 기호를 생략할 때,
(1) 숫자는 문자 앞에
(2) 문자는 알파벳 순서로
(3) 같은 문자는 거듭제곱의 꼴로
(4) 문자 앞에 숫자 1 은 생략한다.
따라서 $(-3) \times x \times x \times y \times x \times z = -3x^3yz$

4. 다음 중 곱셈기호를 생략하여 나타낸 것 중 옳은 것은?

① $0.1 \times a = 0.a$

② $a \times a \times a = 3a$

③ $2 \times \frac{3}{5} = 2\frac{3}{5}$

④ $a \div 4 = \frac{4}{a}$

⑤ $a \times (-1) \times x = -ax$

해설

① $0.1a$

② a^3

③ $\frac{6}{5}$

④ $a \div 4 = a \times \frac{1}{4} = \frac{a}{4}$

5. $2x \div y \div z$ 를 나눗셈 기호를 생략하여 나타내면?

- ① $2xyz$ ② $\frac{2xy}{z}$ ③ $\frac{yz}{2x}$ ④ $\frac{2x}{yz}$ ⑤ $\frac{2}{xyz}$

해설

$$2x \div y \div z = 2x \times \frac{1}{y} \times \frac{1}{z} = \frac{2x}{yz} \text{ 이다.}$$

6. $x \div \frac{1}{3} \div b$ 를 나눗셈기호를 생략하여 나타내면?

- ① $\frac{bx}{3}$ ② $\frac{3x}{b}$ ③ $\frac{x}{3b}$ ④ $\frac{3b}{x}$ ⑤ $\frac{b}{3x}$

해설

$$x \div \frac{1}{3} \div b = x \times 3 \times \frac{1}{b} = \frac{3x}{b}$$

7. 다음 중 옳은 것은?

① $a \div b \div c = \frac{ab}{c}$

② $a \div b \times c = a \div bc$

③ $a \times (b \div c) = a \div (b \div c)$

④ $a \div b \div c = a \div (b \times c)$

⑤ $a \div b \div c = ac \div b$

해설

① $a \div b \div c = \frac{a}{bc}$

② $\frac{ac}{b} \neq \frac{a}{bc}$

③ $\frac{ab}{c} \neq \frac{ac}{b}$

⑤ $\frac{a}{bc} \neq \frac{ac}{b}$

8. 다음 중 기호 $\times, \div$ 의 생략이 옳은 것은?

① $x \times 2 \times y \times y \times x = 2xyy$

② $a \times c \times c \times c \times 1 = 1ac^4$

③ $4 \times (x + y) \times y = 4y(x + y)$

④ $x + y \div 5 = \frac{x}{y} + 5$

⑤ $(-7) \times x + y \div 7 = -7x + \frac{7}{y}$

해설

① $x \times 2 \times y \times y \times x = 2x^2y^2$

② $a \times c \times c \times c \times 1 = ac^3$

④ $x + y \div 5 = x + \frac{y}{5}$

⑤ $(-7) \times x + y \div 7 = -7x + \frac{y}{7}$

9. 다음 식에서 기호 $\times, \div$ 를 생략하여 나타낸 것 중 옳은 것은?

① $x \times a \times (-2) = xa - 2$

② $3 \div (a + b) \times c = \frac{3}{c(a + b)}$

③ $x \times (2 \div y) \times z = \frac{2x}{yz}$

④ $-1 \times a + b \div c = -a + \frac{b}{c}$

⑤ $0.1 \times a + b = 0.a + b$

해설

① $x \times a \times (-2) = -2ax$

② $3 \div (a + b) \times c = \frac{3c}{a + b}$

③ $x \times (2 \div y) \times z = \frac{2xz}{y}$

⑤ $0.1 \times a + b = 0.1a + b$

10. 다음 중 $\frac{a}{bc}$ 와 같은 식을 모두 고르면?

- ① $a \div b \div c$
- ② $a \div b \times c$
- ③ $a \div (b \times c)$
- ④ $a \div (b \div c)$
- ⑤ $(a \div b) \times c$

해설

- ① $a \div b \div c = a \times \frac{1}{b} \times \frac{1}{c} = \frac{a}{bc}$
- ② $a \div b \times c = a \times \frac{1}{b} \times c = \frac{ac}{b}$
- ③ $a \div (b \times c) = a \times \frac{1}{bc} = \frac{a}{bc}$
- ④ $a \div (b \div c) = a \div \frac{b}{c} = a \times \frac{c}{b} = \frac{ac}{b}$
- ⑤ $(a \div b) \times c = \frac{a}{b} \times c = \frac{ac}{b}$

11. 다음 보기 중 $a \div b \times c$ 와 같은 것은?

보기

- $\textcircled{\tiny ㉠} \quad a \times b \div c$
- $\textcircled{\tiny ㉡} \quad a \div (b \div c)$
- $\textcircled{\tiny ㉢} \quad a \div b \div c$
- $\textcircled{\tiny ㉣} \quad a \div (b \times c)$

- $\textcircled{\tiny 1} \quad \textcircled{\tiny ㉠}$
- $\textcircled{\tiny 2} \quad \textcircled{\tiny ㉡}$
- $\textcircled{\tiny 3} \quad \textcircled{\tiny ㉢}$
- $\textcircled{\tiny 4} \quad \textcircled{\tiny ㉣}$
- $\textcircled{\tiny 5} \quad \textcircled{\tiny ㉡}, \textcircled{\tiny ㉢}$

해설

$$a \div b \times c = \frac{ac}{b}$$

$$\textcircled{\tiny ㉠} \quad a \times b \div c = \frac{ab}{c}$$

$$\textcircled{\tiny ㉡} \quad a \div (b \div c) = a \div \left(\frac{b}{c}\right) = \frac{ac}{b}$$

$$\textcircled{\tiny ㉢} \quad a \div b \div c = \frac{a}{bc}$$

$$\textcircled{\tiny ㉣} \quad a \div (b \times c) = \frac{a}{bc}$$

12. $x = -\frac{1}{3}$ 일 때, 다음 중 식의 값 중 가장 큰 것은?

① x^2

② $-x$

③ $\frac{1}{x^2}$

④ $\frac{1}{x}$

⑤ $5\left(-\frac{1}{x} - 4\right)$

해설

① $x^2 = \left(-\frac{1}{3}\right)^2 = \frac{1}{9}$

② $-x = -\left(-\frac{1}{3}\right) = \frac{1}{3}$

③ $\frac{1}{x^2} = 1 \div x^2 = 1 \div \frac{1}{9} = 9$

④ $\frac{1}{x} = -3$

⑤ $5\left(-\frac{1}{x} - 4\right) = 5 \times (3 - 4) = -5$

13. $a = -3$ 일 때, 다음 식의 값 중 다른 것은?

㉠ a^2

㉡ $(-a)^2$

㉢ $-a^2$

㉣ $3 - 2a$

㉤ $-\frac{a}{3} + 8$

▶ 답 :

▶ 정답 : ㉢

해설

㉠ $a^2 = (-3)^2 = 9$

㉡ $(-a)^2 = \{-(-3)\}^2 = 9$

㉢ $-a^2 = -(-3)^2 = -9$

㉣ $3 - 2a = 3 - 2 \times (-3) = 9$

㉤ $-\frac{a}{3} + 8 = -\frac{(-3)}{3} + 8 = 1 + 8 = 9$

14. $a = 2, b = -\frac{1}{3}$ 일 때, $\frac{a}{2} - \frac{3}{b}$ 의 값은?

① -2

② 10

③ 2

④ 0

⑤ 3

해설

$$\frac{a}{2} - \frac{3}{b} = \frac{2}{2} - \frac{3}{\left(-\frac{1}{3}\right)} = 1 + 9 = 10$$

15. $x = -3$ 일 때, 다음 중 식의 값이 가장 큰 것을 골라라.

㉠ $-x^2$

㉡ $\frac{1}{x^2}$

㉢ $4x + 10$

㉣ $-x - 2$

㉤ $x + 5$

▶ 답 :

▶ 정답 : ㉤

해설

$$\text{㉠ } -x^2 = -(-3)^2 = -9$$

$$\text{㉡ } \frac{1}{x^2} = \frac{1}{(-3)^2} = \frac{1}{9}$$

$$\text{㉢ } 4x + 10 = 4 \times (-3) + 10 = -2$$

$$\text{㉣ } -x - 2 = -(-3) - 2 = 1$$

$$\text{㉤ } x + 5 = (-3) + 5 = 2$$

16. 다음 보기 중 $\frac{x}{yz}$ 와 같은 것을 모두 골라라.

보기

- $\textcircled{\text{㉠}}$ $x \div y \times z$
- $\textcircled{\text{㉡}}$ $x \div y \div z$
- $\textcircled{\text{㉢}}$ $x \times y \div z$
- $\textcircled{\text{㉤}}$ $x \div (y \div z)$
- $\textcircled{\text{㉥}}$ $x \div (y \times z)$
- $\textcircled{\text{㉦}}$ $x \times \frac{1}{y} \div z$

▶ 답 :

▶ 답 :

▶ 답 :

▷ 정답 : $\textcircled{\text{㉡}}$

▷ 정답 : $\textcircled{\text{㉥}}$

▷ 정답 : $\textcircled{\text{㉦}}$

해설

$$\begin{aligned}\textcircled{\text{㉠}} \quad x \div y \times z &= \frac{x}{y} \times z = \frac{xz}{y} \\ \textcircled{\text{㉡}} \quad x \div y \div z &= x \times \frac{1}{y} \times \frac{1}{z} = \frac{x}{yz} \\ \textcircled{\text{㉢}} \quad x \times y \div z &= xy \times \frac{1}{z} = \frac{xy}{z} \\ \textcircled{\text{㉤}} \quad x \div (y \div z) &= x \div \left(\frac{y}{z}\right) = x \times \frac{z}{y} = \frac{xz}{y} \\ \textcircled{\text{㉥}} \quad x \div (y \times z) &= x \times \frac{1}{yz} = \frac{x}{yz} \\ \textcircled{\text{㉦}} \quad x \times \frac{1}{y} \div z &= \frac{x}{y} \times \frac{1}{z} = \frac{x}{yz}\end{aligned}$$