

## 反射テスト 文字式 指数法則 乗除 基礎 03

1. 次の計算をせよ。(S級 45秒, A級 1分10秒, B級 1分40秒, C級 2分30秒)

(1)  $x^5 \times x^5$

(2)  $t^8 \div t^7$

(3)  $(-t)^4 \times (-t^2)$

(4)  $n^8 \div n^9 \times n$

(5)  $(-y^4)^2 \div y^9$

(6)  $(x^2)^5 \div (x^7)^2 \div (x^2)^3$

(7)  $(-x^2)^3 \div (-x^4) \div (x^3)^3 \times x$

(8)  $-a^7 \div (-a^3)^4 \times (-a)^4 \div a^3$

2. 次の計算をせよ。(S級 45 秒, A級 1 分 10 秒, B級 1 分 40 秒, C級 2 分 30 秒)

(1)  $x^6 \times x^6$

(2)  $t^5 \div t^6$

(3)  $(-t)^3 \times (-t^2)$

(4)  $n^5 \div n^{11} \times n$

(5)  $(-y^3)^2 \div y^6$

(6)  $(x^3)^4 \div (-x^4)^2 \div (-x^2)^3$

(7)  $(-x^3)^6 \div (-x^5) \div (x^3)^3 \times x$

(8)  $-a^4 \div (-a^3)^3 \times (-a)^7 \div a$

# 反射テスト 文字式 指数法則 乗除 基礎 03 解答解説

1. 次の計算をせよ。(S級 45秒, A級 1分10秒, B級 1分40秒, C級 2分30秒)

(1)  $x^5 \times x^5$

$$\begin{aligned} &= x^{5+5} \\ &= x^{10} \quad \dots\text{答え} \end{aligned}$$

(2)  $t^8 \div t^7$

$$\begin{aligned} &= \frac{t^8}{t^7} \\ &= t \quad \dots\text{答え} \end{aligned}$$

(3)  $(-t)^4 \times (-t^2)$

$$\begin{aligned} &= t^4 \times (-t^2) \\ &= -t^{4+2} \\ &= -t^6 \quad \dots\text{答え} \end{aligned}$$

(4)  $n^8 \div n^9 \times n$

$$\begin{aligned} &= \frac{n^8 \times n}{n^9} \\ &= \frac{n^9}{n^9} \\ &= 1 \quad \dots\text{答え} \end{aligned}$$

(5)  $(-y^4)^2 \div y^9$

$$\begin{aligned} &= y^8 \div y^9 \\ &= \frac{y^8}{y^9} \\ &= \frac{1}{y} \quad \dots\text{答え} \end{aligned}$$

(6)  $(x^2)^5 \div (x^7)^2 \div (x^2)^3$

$$\begin{aligned} &= x^{10} \div x^{14} \div x^6 \\ &= \frac{x^{10}}{x^{14} \times x^6} \\ &= \frac{x^{10}}{x^{20}} \\ &= \frac{1}{x^{10}} \quad \dots\text{答え} \end{aligned}$$

(7)  $(-x^2)^3 \div (-x^4) \div (x^3)^3 \times x$

$$\begin{aligned} &= -x^6 \div (-x^4) \div x^9 \times x \\ &= +\frac{x^6 \times x}{x^4 \times x^9} \\ &= \frac{x^7}{x^{13}} \\ &= \frac{1}{x^6} \quad \dots\text{答え} \end{aligned}$$

(8)  $-a^7 \div (-a^3)^4 \times (-a)^4 \div a^3$

$$\begin{aligned} &= -a^7 \div (+a^{12}) \times (+a^4) \div a^3 \\ &= -\frac{a^7 \times a^4}{a^{12} \times a^3} \\ &= -\frac{a^{11}}{a^{15}} \\ &= -\frac{1}{a^4} \quad \dots\text{答え} \end{aligned}$$

2. 次の計算をせよ。(S級45秒, A級1分10秒, B級1分40秒, C級2分30秒)

(1)  $x^6 \times x^6$

$$\begin{aligned} &= x^{6+6} \\ &= x^{12} \quad \dots\text{答え} \end{aligned}$$

(2)  $t^5 \div t^6$

$$\begin{aligned} &= \frac{t^5}{t^6} \\ &= \frac{1}{t^{6-5}} \\ &= \frac{1}{t} \quad \dots\text{答え} \end{aligned}$$

(3)  $(-t)^3 \times (-t^2)$

$$\begin{aligned} &= -t^3 \times (-t^2) \\ &= +t^{3+2} \\ &= t^5 \quad \dots\text{答え} \end{aligned}$$

(4)  $n^5 \div n^{11} \times n$

$$\begin{aligned} &= \frac{n^5 \times n}{n^{11}} \\ &= \frac{n^6}{n^{11}} \\ &= \frac{1}{n^5} \quad \dots\text{答え} \end{aligned}$$

(5)  $(-y^3)^2 \div y^6$

$$\begin{aligned} &= +y^6 \div y^6 \\ &= \frac{y^6}{y^6} \\ &= 1 \quad \dots\text{答え} \end{aligned}$$

(6)  $(x^3)^4 \div (-x^4)^2 \div (-x^2)^3$

$$\begin{aligned} &= x^{12} \div (+x^8) \div (-x^6) \\ &= -\frac{x^{12}}{x^8 \times x^6} \\ &= -\frac{x^{12}}{x^{14}} \\ &= -\frac{1}{x^2} \quad \dots\text{答え} \end{aligned}$$

(7)  $(-x^3)^6 \div (-x^5) \div (x^3)^3 \times x$

$$\begin{aligned} &= +x^{18} \div (-x^5) \div x^9 \times x \\ &= -\frac{x^{18} \times x}{x^5 \times x^9} \\ &= -\frac{x^{19}}{x^{14}} \\ &= -x^5 \quad \dots\text{答え} \end{aligned}$$

(8)  $-a^4 \div (-a^3)^3 \times (-a)^7 \div a$

$$\begin{aligned} &= -a^4 \div (-a^9) \times (-a^7) \div a \\ &= -\frac{a^4 \times a^7}{a^9 \times a} \\ &= -\frac{a^{11}}{a^{10}} \\ &= -a \quad \dots\text{答え} \end{aligned}$$