

stress test

1. $48x^5y^3 \div \square = (-2x^2y)^2$ $\square$ $\div$ $\S$?

① $-6xy$ ② $6xy$ ③ $12xy$

$$\textcircled{4} \quad -\frac{1}{6xy} \qquad \textcircled{5} \quad \frac{1}{6xy}$$

$$\begin{aligned} \textbf{2. } & -x(2x-6)+(x-2)(-3x) \\ & x^2+e^3\ln e^{-1/4}a,x\ln e^{3/4}be^{-1/4}e^3=ae+b\ln e^{-1/4}? \end{aligned}$$

① 7 ② -7 ③ 17

④ -17 ⑤ 0

$$\mathbf{3.} \quad \frac{6x^2y - 8xy^2}{2xy} - \frac{6xy - 9y^2}{3y} \quad \text{ì} \quad \text{ê} \text{ö} \text{ ``} \text{í} \quad \text{í} \quad \text{ë} \text{©} \text{'?}$$

① $3x - 2y$ ② $x - y$ ③ $x - 7y$

④ $2x - 3y$ ⑤ $x + 5y$

$$4. \quad a = \frac{1}{2}, b = -\frac{1}{2} \text{ i } \frac{1}{4} \ddot{\text{e}}, \ddot{\text{e}} \text{ } \varpi \text{ i } \text{ i } \text{ } \hat{\text{e}}^\circ \text{ i } \text{ } \hat{\text{e}} \mu \text{---} \text{ i } \text{ } \text{---} \ddot{\text{e}} \text{ } \frac{1}{4}.$$

$$a - [3a - \{a - 2b - (7a - 4b)\}]$$

5. $\ddot{e} \propto \dot{t} \quad \dot{t} \propto \dot{t} \quad \ddot{e} \propto \dot{e}^2 \quad \dot{e} \propto \dot{e}^2 \quad \dot{e}^3 \propto \dot{e}^3$

$$\textcircled{1} \quad a^2 \times (a^3)^2 = a^7 \qquad \textcircled{2} \quad x^5 \div x^3 \times x^2 = 1$$

$$\textcircled{3} \quad a^3 \div a^2 \div a = 0 \qquad \textcircled{4} \quad x^2 \times x^3 \div x^5 = 1$$

⑤ $a^3 \div a \times a = a$

6. $\{(-x^2y)^3\}^2$ is the same as?

① x^4y^5 ② x^6y^3 ③ x^7y^5

④ x^8y^6 ⑤ $x^{12}y^6$

7. $\ddot{e} \propto \dot{\iota} \propto \dot{\iota}^3 \propto \dot{e}^2 \dot{\iota} ?$

$$\textcircled{1} \quad 6x^3 \div (-2x)^2 = -12x^5$$

$$\textcircled{2} \quad -4x^5 \div 2x^3 = -2x^2$$

$$\textcircled{3} \quad 8a^4b^2 \div 2(ab)^2 = 2a^2$$

$$\textcircled{4} \quad (x^2 + x) \div \frac{1}{2}x = \frac{1}{2}x + \frac{1}{2}$$

$$\textcircled{5} \quad (4x^2 - y^2) \div (-2y) = -8x^2y + 2y^3$$

[illegible]

① 1.7×2.3 ② 94×86 ③ 28×31

④ 99×101 ⑤ 52×48

9. $(x-1)(x-2)(x+2)(x+3)$ is even, x^2 is odd, $x \nmid 14$.
Can we conclude?

① 3 ② 5 ③ 7 ④ -5 ⑤ -7

[illegible]

11. $\frac{a+b+c}{a^2+b^2+c^2} = \frac{1}{2}$, $a+b+c = 1$ and a, b, c are positive real numbers. Find the value of $\frac{a^2+b^2+c^2}{a^3+b^3+c^3}$.

$$\left(\frac{2y^2z^4}{x^a}\right)^3 = \frac{by^cz^{12}}{x^{12}}$$

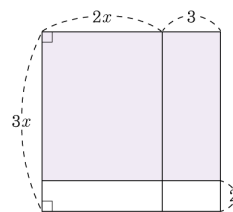
12. If a, b, c are positive real numbers such that $3x - 5y - \{y - 2(2x + 3y)\} = ax + by + c$, then find the value of $a + b + c$.

13. $\frac{a^2+b^2+c^2}{a^3+b^3+c^3} = \frac{1}{2}$, $a+b+c = 1$ and a, b, c are positive real numbers. Find the value of $\frac{a^2+b^2+c^2}{a^3+b^3+c^3}$.

$$x + 4y - \{2x - (3y - \square + y) + y\} = 5x - (3x + 2y)$$

14. If a, b, c are positive real numbers such that $(x+3)(x+a) = x^2 + bx - 12$, then find the value of $a + b + c$.

15. Find the value of $\frac{a^2+b^2+c^2}{a^3+b^3+c^3}$ if a, b, c are positive real numbers such that $\frac{a}{b} + \frac{b}{c} + \frac{c}{a} = 1$.



- ① $6x^2 + 5x - 6$ ② $4x^2 + 12x + 9$
 ③ $9x^2 - 12x + 4$ ④ $6x^2 - 5x + 6$
 ⑤ $4x^2 - 5x + 6$

16. If a, b, c are positive real numbers such that $3x - 5y - \{y - 2(2x + 3y)\} = ax + by + c$, then find the value of $a + b + c$.

- ① $(x^2 - 9)m^2$ ② $(x^2 - x - 6)m^2$
 ③ $(x^2 + x - 6)m^2$ ④ $(x^2 - 4x + 4)m^2$
 ⑤ $(x^2 + 6x + 9)m^2$

17. $2^{13} \times 5^{15}$ is a power of 10. Find the value of $a + b + c$.

18. Find the value of $\frac{a^2+b^2+c^2}{a^3+b^3+c^3}$ if a, b, c are positive real numbers such that $\frac{a}{b} + \frac{b}{c} + \frac{c}{a} = 1$.

$$\left(-\frac{5b^2}{2a^3}\right)^2 \times \square^3 \div \frac{5}{3}a^2b^7 = -\frac{10}{9}a$$

- ① $-\frac{4}{3}a^3b$ ② $-\frac{2}{3}ab^3$ ③ $-\frac{2}{3}a^3b$
 ④ $-\frac{4}{3}a^2b^3$ ⑤ $\frac{4}{3}a^2b^3$

19. $\frac{x}{3}(6-3x) - \frac{x}{2}(6x-8) - 3x = Ax^2 + Bx$ ¼ í ë ,
 $2A + 3B$ ì ê° ì êµ¬í ì ¬ë ¼.

20. $(2x + y - 2)(3x + 2y + 4)$ ë¥¼ ì ê° í ë©'?

① $3x^2 + 3xy + 2y^2$

② $3x^2 + 6xy + 2y^2 - 8$

③ $6x^2 + 7xy + 2y^2 - 8$

④ $6x^2 + 2x + 7xy + 2y^2 - 8$

⑤ $12x^2 + 2x + 7xy - 8y^2$

21. $p = a(l + nr)$ ì l ì ê° í ì ì ¼ë¡ ë í ë ì ë ¼.

22. $(-24xy^2) \div 12xy \times A = -8x^2y$, $-8x^2y^2 \div B \times x^2y^3 = 2x^3y$ ì ¼ ë , $A \times B$, $A \div B$ ì ê° ì ì ë¡ ë ë¡ êµ¬í ë©'?

① $4x^2, -4xy^4$ ② $-\frac{x}{y^4}, -16x^3y^4$

③ $-16x^3y^4, -\frac{x}{y^4}$ ④ $16x^3y^4, \frac{x}{y^4}$

⑤ $-16x^3y^4, -xy^4$

23. ë° ë©' ì ë° ì§ ë¡ ì êµ¬ ì ê° a cm, ë ì ê° b cm ì ,
ì ë¡ V_1 ê³¼ ë° ë©' ì ë° ì§ ë¡ ì êµ¬ ì ê° b cm, ë ì ê°
 a cm ì , ì ë¡ V_2 ê° ì ë µ. V_1 ì ë¶ í ¼ë V_2 ì
ë¶ í ¼ ì ëª µ¡ ì ,ê°?

① a µ¡

② b µ¡

③ ab µ¡

④ $\frac{a^2}{b}$ µ¡

⑤ $\frac{a}{b}$ µ¡

24. $(2x + ay - 5)(x - 2y + 3)$ ì ì ê° í ë©' ì ì í-ì ì ì í
ê° í-ì ê³ ì ì ì í © ì ' 5 ì 'ë µ. ì 'ë , à ì ê° ì ?

① -2

② -1

③ 0

④ 1

⑤ 2

25. $xyz \neq 0$, $xy = a$, $yz = b$, $zx = c$ ì ¼ ë , $x^2 + y^2 + z^2$ ì
ê° ì a, b, c ì ê° í ì ¬ ë° ë¥'ê² ë í ë ,ê² ì ?

① $\frac{bc}{c} + \frac{ac}{a} + \frac{ab}{b}$

② $\frac{bc}{b} + \frac{ac}{c} + \frac{ab}{a}$

③ $\frac{bc}{c} + \frac{ac}{b} + \frac{ab}{a}$

④ $\frac{bc}{b} + \frac{ac}{a} + \frac{ab}{c}$

⑤ $\frac{bc}{a} + \frac{ac}{b} + \frac{ab}{c}$