

2008 成城学園中学校

- (1) $160 \times 2.3 + 23 \times 5 - 0.23 \times 700 + 23 \times 6 = \square$
- (2) $0.063 \div 0.0042 = \square$
- (3) $2.5 \div \frac{1}{8} + \frac{7}{4} \div 0.125 - 1.6 \div \frac{8}{5} = \square$
- (4) $3.2 + 6.2 + 9.2 + 12.2 + 15.2 + 18.2 + 21.2 + 24.2 + 27.2 = \square$
- (5) $\left(\frac{6}{5} - \frac{1}{6}\right) + \left(\frac{7}{6} - \frac{1}{7}\right) + \left(\frac{8}{7} - \frac{1}{8}\right) + \left(\frac{9}{8} - \frac{1}{9}\right) + \left(\frac{10}{9} - \frac{1}{10}\right) = \square$
- (6) $1.1 + 11.11 + 111.111 + 1111.1111 + 11111.11111 + 111111.111111 + 1111111.1111111 + 11111111.11111111$
 $+ 111111111.111111111 = \square$
- (7) $\left\{12 - 2 \times \left(\frac{7}{3} - \frac{1}{2}\right)\right\} \div \left\{1.25 - \left(\frac{3}{4} - 2 \div 6\right)\right\} = \square$
- (8) $101 \times 101 \times 101 \times 101 = \square$
- (9) $1 + 0.1 + 50 + 2 + 0.2 + 40 + 3 + 0.3 + 30 + 4 + 0.4 + 20 + 5 + 0.5 + 10 = \square$
- (10) $15.125 - \frac{1}{4} \times \left\{14 \times \left(\frac{2}{3} + \square \div 0.75\right) + 8\right\} = \frac{49}{8}$

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- (1) $32 - \{12 + (25 - 16) \div 3\}$ を計算しなさい。
- (2) $\left(2 - 2\frac{1}{3} \div 2.625\right) \times 1.125 + 2\frac{6}{7} \times 0.025 \div \frac{1}{7}$ を計算しなさい。
- (3) $(5 + 0.5 \times \square) \div 4 - 3 = 12$ の \square にあてはまる数を求めなさい。

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- (1) $24 \div \left(0.8 + 1\frac{1}{5}\right) = \square$
- (2) $75 - (25 - 5) \times 3 + 76 \div 19 = \square$
- (3) $4\frac{1}{2} + 1\frac{3}{4} \div \left(2\frac{2}{3} - 1\frac{1}{2}\right) = \square$
- (4) $(4 \times 3.1 + 4.9 \times 6 - 8.8) \div 9.9 = \square$
- (5) $\left(\frac{1}{2} \times \frac{2}{3} \div \frac{3}{4} + \frac{4}{5}\right) \times \left(\frac{5}{6} \times \frac{6}{7} \div \frac{7}{8}\right) = \square$
- (6) $500\text{cm}^2 \times 4000000 = \square \text{ha}$

2008 青稜中学校(第1回B)

- (1) $40 - 20 \div 4 + 2 = \square$
- (2) $1\frac{1}{7} \div 5\frac{1}{3} \times 3\frac{1}{9} = \square$
- (3) $\frac{2}{3} \times \left(1.3 - \frac{2}{5}\right) \div 1\frac{1}{5} = \square$
- (4) $\left(2\frac{2}{3} - 2\frac{1}{4} \div 13\frac{1}{2}\right) \times \frac{3}{5} - \frac{1}{2} = \square$
- (5) $1.2 \times 2 \times 4 - 1\frac{1}{5} \times 3 \times 2 + 0.3 \times 2 \times 6 = \square$

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$$1. (1) 160 \times 2.3 + 23 \times 5 - 0.23 \times 700 + 23 \times 6$$

$$= 160 \times 23 \times 0.1 + 23 \times 5 - 23 \times 0.01 \times 700 + 23 \times 6$$

$$= 23 \times (16 + 5 - 7 + 6)$$

$$= 23 \times 20 = \underline{\underline{460}}$$

$$(2) 0.063 \div 0.0042 = \frac{63}{1000} \times \frac{10000}{42} = \underline{\underline{15}}$$

$$(3) 2.5 \div \frac{1}{8} + \frac{7}{4} \div 0.125 - 1.6 \div \frac{8}{5}$$

$$= \frac{5}{1} \times \frac{8}{1} + \frac{7}{1} \times \frac{8}{1} - \frac{8}{1} \times \frac{5}{1} = 20 + 14 - 1 = \underline{\underline{33}}$$

$$(4) 3.2 + 6.2 + 9.2 + 12.2 + 15.2 + 18.2 + 21.2 + 24.2 + 27.2$$

$$= (3.2 + 27.2) \times 9 \div 2 = \frac{15.2}{2} \times 9 = \underline{\underline{136.8}}$$

$$(5) \left(\frac{6}{5} - \frac{1}{6}\right) + \left(\frac{7}{6} - \frac{1}{7}\right) + \left(\frac{8}{7} - \frac{1}{8}\right) + \left(\frac{9}{8} - \frac{1}{9}\right) + \left(\frac{10}{9} - \frac{1}{10}\right)$$

$$= \frac{6}{5} - \frac{1}{6} + \frac{7}{6} - \frac{1}{7} + \frac{8}{7} - \frac{1}{8} + \frac{9}{8} - \frac{1}{9} + \frac{10}{9} - \frac{1}{10} \quad (\text{考え方は中学レベル})$$

$$= \frac{6}{5} + 1 \times 4 - \frac{1}{10} = \frac{12}{10} + 4 - \frac{1}{10} = 4\frac{11}{10} = \underline{\underline{5\frac{1}{10}}} \quad (5.1)$$

$$(6) 1.1 + 11.11 + 111.111 + 1111.1111 + 11111.11111 + 111111.111111 + 1111111.1111111 + 11111111.11111111$$

各位の数字をみよ 例 0.148 → 0.8

$$= \underline{\underline{12345678.87654321}}$$

$$(7) \left\{ 12 - 2 \times \left(\frac{7}{3} - \frac{1}{2} \right) \right\} \div \left\{ 1.25 - \left(\frac{3}{4} - 2 \div 6 \right) \right\}$$

$$= \left(12 - 2 \times \frac{11}{6} \right) \div \left(\frac{5}{4} - \frac{5}{12} \right)$$

$$= \frac{25}{3} \div \frac{10}{12}$$

$$= \frac{25}{1} \times \frac{12}{10} = \underline{\underline{10}}$$

$$\begin{aligned}
 (8) \quad & 101 \times 101 \times 101 \times 101 \\
 & = 10201 \times 10201 \\
 & = \underline{104060401}
 \end{aligned}$$

$$\begin{array}{r}
 101 \\
 \times 101 \\
 \hline
 101 \\
 1010 \\
 \hline
 10201
 \end{array}$$

$$\begin{array}{r}
 10201 \\
 \times 10201 \\
 \hline
 10201 \\
 204020 \\
 102010 \\
 \hline
 104060401
 \end{array}$$

$$\begin{aligned}
 (9) \quad & 1 + 0.1 + 50 + 2 + 0.2 + 40 + 3 + 0.3 + 30 + 4 + 0.4 + 20 + 5 + 0.5 + 10 \\
 & = \underbrace{1+2+3+4+5} + \underbrace{0.1+0.2+0.3+0.4+0.5} + \underbrace{50+40+30+20+10} \\
 & = 15 + 1.5 + 150 \\
 & = \underline{\underline{166.5}}
 \end{aligned}$$

$$(10) \quad \underset{(15\frac{1}{8})}{15.125} - \frac{1}{4} \times \left\{ 14 \times \left(\frac{2}{3} + \square \div 0.75 \right) + 8 \right\} = \frac{49}{8}$$

$\left(\frac{2}{3} \right) \qquad \left(\frac{3}{4} \right)$

$$\frac{121}{8} - \frac{1}{4} \times \left\{ 14 \times \left(\frac{2}{3} + \square \times \frac{4}{3} \right) + 8 \right\} = \frac{49}{8}$$

The diagram shows the equation with numbered circles indicating the order of operations:

- ①: Inside the innermost parentheses, $\square \times \frac{4}{3}$
- ②: Inside the inner parentheses, $\frac{2}{3} + \square \times \frac{4}{3}$
- ③: Inside the curly braces, $14 \times \left(\frac{2}{3} + \square \times \frac{4}{3} \right)$
- ④: Inside the curly braces, $14 \times \left(\frac{2}{3} + \square \times \frac{4}{3} \right) + 8$
- ⑤: The entire expression, $\frac{121}{8} - \frac{1}{4} \times \left\{ 14 \times \left(\frac{2}{3} + \square \times \frac{4}{3} \right) + 8 \right\} = \frac{49}{8}$

$$\textcircled{5} = \frac{121}{8} - \frac{49}{8} = \frac{72}{8} = 9 \qquad \textcircled{4} = 9 \div \frac{1}{4} = 36$$

$$\textcircled{3} = 36 - 8 = 28 \qquad \textcircled{2} = 28 \div 14 = 2$$

$$\textcircled{1} = 2 - \frac{2}{3} = \frac{4}{3} \qquad \square = \frac{4}{3} \div \frac{4}{3} = \underline{\underline{1}}$$

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$$\begin{aligned} 1. (1) & 32 - \{12 + (25 - 16) \div 3\} \\ &= 32 - (12 + 9 \div 3) \\ &= 32 - (12 + 3) \\ &= 32 - 15 = \underline{\underline{17}} \end{aligned}$$

$$\begin{aligned} (2) & (2 - 2\frac{1}{3} \div 2.625) \times 1.125 + 2\frac{6}{7} \times 0.025 \div \frac{1}{7} \\ &= (2 - \frac{4}{3} \div 2\frac{5}{8}) \times 1\frac{1}{8} + \frac{20}{7} \times \frac{25}{1000} \times \frac{1}{7} \\ &= (2 - \frac{4}{3} \times \frac{8}{25}) \times \frac{9}{8} + \frac{1}{2} \\ &= \frac{5}{3} \times \frac{9}{8} + \frac{1}{2} = \frac{5}{4} + \frac{2}{4} = \frac{7}{4} = \underline{\underline{1\frac{3}{4}}} \end{aligned}$$

$$\begin{aligned} (3) & (5 + 0.5 \times \square) \div 4 - 3 = 12 \\ & \quad \text{②} \quad \text{①} \quad \text{③} \quad \text{③} = 12 + 3 = 15 \\ & \quad \text{②} = 4 \times 15 = 60 \quad \text{①} = 60 - 5 = 55 \\ & \quad \square = 55 \div 0.5 = \underline{\underline{110}} \end{aligned}$$

2008 聖望學園 中學

$$1. (1) 24 \div (0.8 + 1\frac{1}{5}) = 24 \div (0.8 + 1.2) = 24 \div 2 = \underline{\underline{12}}$$

$$(2) 75 - (25 - 5) \times 3 + 76 \div 19 \\ = 75 - \underset{60}{20 \times 3} + 4 = \underline{\underline{19}}$$

$$(3) 4\frac{1}{2} + 1\frac{3}{4} \div (2\frac{2}{3} - 1\frac{1}{2}) \\ = 4\frac{1}{2} + \frac{7}{4} \div (\frac{16}{6} - \frac{9}{6}) = 4\frac{1}{2} + \frac{\cancel{7}^1}{\cancel{4}_2} \times \frac{\cancel{6}^3}{\cancel{3}_1} = \underline{\underline{6}}$$

$$(4) (4 \times 3.1 + 4.9 \times 6 - 8.8) \div 9.9 \\ = (12.4 + 29.4 - 8.8) \div 9.9 \\ = 33 \div 9.9 = \cancel{33}^1 \times \frac{10}{\cancel{99}_3} = \underline{\underline{3\frac{1}{3}}}$$

$$(5) (\frac{1}{2} \times \frac{2}{3} \div \frac{3}{4} + \frac{4}{5}) \times (\frac{5}{6} \times \frac{6}{7} \div \frac{7}{8}) \\ = (\frac{1}{\cancel{2}} \times \frac{\cancel{2}^1}{3} \times \frac{4}{3} + \frac{4}{5}) \times (\frac{5}{\cancel{6}} \times \frac{\cancel{6}^1}{7} \times \frac{8}{7}) \\ = (\frac{20}{45} + \frac{36}{45}) \times \frac{40}{49} \\ = \frac{\cancel{8}^1 \cancel{56}^1}{\cancel{45}_9} \times \frac{\cancel{40}^1}{\cancel{49}_7} = \frac{64}{63} = 1\frac{1}{63}$$

$$(6) 500 \text{ cm}^2 \times 4000000 = \underset{\substack{\uparrow \\ \text{ka}}}{2} \underset{\substack{\uparrow \\ \text{a}}}{0} \underset{\substack{\uparrow \\ \text{m}^2}}{0} 000000 \text{ cm}^2 = \underline{\underline{20 \text{ ka}}}$$

2008 青稜中学 (1回B)

$$1. (1) 40 - 20 \div 4 + 2 = \underline{\underline{37}}$$

$$(2) \frac{1}{5} \div 5 \frac{1}{3} \times 3 \frac{1}{9} = \frac{1}{5} \times \frac{3}{5} \times \frac{28}{9} = \underline{\underline{\frac{2}{3}}}$$

$$(3) \frac{2}{3} \times (1.3 - \frac{2}{5}) \div \frac{1}{5} = \frac{2}{3} \times (\frac{13}{10} - \frac{4}{10}) \times \frac{5}{6} \\ = \frac{1}{2} \times \frac{9}{10} \times \frac{5}{6} = \underline{\underline{\frac{1}{2}}}$$

$$(4) (2\frac{2}{3} - 2\frac{1}{4} \div 1\frac{1}{2}) \times \frac{3}{5} - \frac{1}{2} \\ = (2\frac{2}{3} - \frac{1}{2} \times \frac{2}{3}) \times \frac{3}{5} - \frac{1}{2} \\ = (\frac{16}{6} - \frac{1}{6}) \times \frac{3}{5} - \frac{1}{2} \\ = \frac{15}{6} \times \frac{3}{5} - \frac{1}{2} = \underline{\underline{1}}$$

$$(5) 1.2 \times 2 \times 4 - 1\frac{1}{5} \times 3 \times 2 + 0.3 \times 2 \times 6 \\ (1.2) \\ = 1.2 \times (2 \times 4 - 3 \times 2) + 3.6 \\ = 1.2 \times 2 + 3.6 = \underline{\underline{6}}$$