

2008 早稲田実業学校中等部

1. (1) $\left(\frac{4}{5}-0.75\right) \div \left\{2\frac{1}{6} \times \left(1.2+\frac{2}{3}\right)-\frac{4}{9}\right\}$ を計算しなさい。

2008 浅野中学校

1. (2) $263\frac{9}{10} + (1.245 \times 2639 + 8755 \times 2.639) \times \boxed{(4)} \div 5 = 30000 - 3610$

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1. $6 - \frac{121}{13} \div \left\{39.2 - \frac{189}{4} \times \left(\frac{2}{3} - \frac{1}{5}\right) \div 0.7\right\} \times 4.9$

2008 足立学園中学校

1. (1) $7 \times 3 - 24 \div 4 = \boxed{}$
(2) $2 \times \{(13 - 5) \div 2 + 1\} = \boxed{}$
(3) $125 \div (4 \times \boxed{} - 7) = 5$
(4) $1 - \left(\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16}\right) = \boxed{}$
(5) $0.25 \times 63 - 0.75 + 0.5 \times 20 = \boxed{}$
(6) $\frac{156}{\boxed{}} + 156 = \frac{13}{17}$

2008 郁文館中学校

1. (1) $(72 \div 6 - 4) \div (8 - 3 \times 2)$
(2) $\frac{3}{7} \times \left(\frac{5}{2} - \frac{1}{6}\right)$
(3) $3.1 \times 2.9 + 0.2 \div 20$

2008 海城中学校

1. (1) $\left(4\frac{1}{3} + 1.6\right) \times \frac{1}{5} \div 0.1 - \left\{4.8 - \left(\frac{1}{3} + 1\frac{3}{5}\right)\right\}$ を計算しなさい。

2008 学習院中等科

1. (1) $137 \times 89 - 79 \times 96 + 78 \times 8 + 58 \times 7 - 59 \times 95 = \boxed{}$
(2) $\left(2\frac{1}{3} - 1.5\right) \div \left(1.125 - \frac{2}{3}\right) = \boxed{}$
(3) $\frac{1}{3} \div \left(3\frac{1}{2} - \boxed{} \div \frac{3}{13}\right) = \frac{1}{4}$

2008 鎌倉学園中学校

1. (1) $(3 - 1) \div \frac{1}{6} \times 4 \div \frac{1}{3} + 17$
(2) $6\frac{1}{4} \div 1.125 \div 1\frac{2}{3} - 1\frac{1}{3}$
(3) $\frac{2}{3} \times \frac{1}{5} + \left\{\left(\frac{1}{5} - \frac{1}{7}\right) + \frac{1}{63} + \frac{1}{99}\right\} \times 2$
(4) $\frac{1}{8 \times 502} + \frac{1}{8 \times 753} + \frac{1}{8 \times 1506}$

2. (1) $\frac{1}{12} \div \left\{\frac{2}{3} - \left(\boxed{} - \frac{1}{6}\right) + 0.375\right\} \div \frac{2}{5} = \frac{5}{14}$

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$$\begin{aligned} 1. (1) & \left(\frac{4}{5} - 0.75\right) \div \left\{2\frac{1}{6} \times \left(1.2 + \frac{2}{3}\right) - \frac{4}{9}\right\} \\ & = \left(\frac{4}{5} - \frac{3}{4}\right) \div \left\{\frac{13}{6} \times \left(\frac{4}{5} + \frac{2}{3}\right) - \frac{4}{9}\right\} \\ & = \frac{1}{20} \div \left(\frac{13}{6} \times \frac{28}{15} - \frac{4}{9}\right) = \frac{1}{20} \div \frac{142-20}{45} \\ & = \frac{1}{20} \times \frac{45}{142-20} = \frac{1}{72} \end{aligned}$$

$$\begin{array}{r} 14 \\ \times 13 \\ \hline 42 \\ 142 \\ \hline 182 \end{array}$$

2008 浅野中学

$$1. (2) 263\frac{9}{10} + (1.245 \times 2639 + 8755 \times 2.639) \times \square \div 5 = 30000 - 3610$$

$$263.9 + (1.245 \times 2639 + 8755 \times 2639 \times 0.001) \times \square \div 5 = 26390$$

$$263.9 + 2639 \times \underbrace{(1.245 + 8.755)}_{10} \times \square \div 5 = 26390$$

$$\downarrow$$
$$2639 \times 0.1 + \frac{2639 \times 10 \times \square}{5} = 2639 \times 10$$

$$2639 \times (0.1 + 2 \times \square) = 2639 \times 10$$

$$0.1 + 2 \times \square = 10$$

$$2 \times \square = 10 - 0.1 = 9.9$$

$$\square = 9.9 \div 2 = \underline{\underline{4.95}}$$

2008 麻布中学

$$1. \quad 6 - \frac{121}{13} \div \left\{ 39.2 - \frac{189}{4} \times \left(\frac{2}{3} - \frac{1}{5} \right) \div 0.7 \right\} \times 4.9$$

$$= 6 - \frac{121}{13} \div \left\{ 39.2 - \frac{189}{\cancel{4}_2} \times \frac{\cancel{4}^{\cancel{63}}}{\cancel{75}_5} \times \frac{\cancel{2}^{\cancel{12}}}{\cancel{7}_1} \right\} \times 4.9$$

$$= 6 - \frac{121}{13} \div (39.2 - 31.5) \times 4.9$$

$$= 6 - \frac{\cancel{121}^{11}}{13} \times \frac{\cancel{189}^7}{\cancel{77}_1} \times \frac{\cancel{49}^7}{\cancel{10}_1}$$

$$= 6 - \frac{11}{13}$$

$$= 6 - 5 \frac{12}{13} = \underline{\underline{\frac{1}{13}}}$$

2008 足立学園 中学

$$1. (1) 7 \times 3 - 24 \div 4 = 21 - 6 = \underline{\underline{15}}$$

$$(2) 2 \times \{(13 - 5) \div 2 + 1\}$$

$$= 2 \times (8 \div 2 + 1)$$

$$= 2 \times (4 + 1)$$

$$= 2 \times 5$$

$$= \underline{\underline{10}}$$

$$(3) 125 \div (4 \times \square - 7) = 5$$

① ②

$$\textcircled{2} = 125 \div 5 = 25$$

$$\textcircled{1} = 25 + 7 = 32$$

$$\square = 32 \div 4 = \underline{\underline{8}}$$

$$(4) 1 - \left(\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} \right)$$

$$= 1 - \frac{8 + 4 + 2 + 1}{16}$$

$$= \underline{\underline{\frac{1}{16}}}$$

$$(5) 0.25 \times 63 - \underline{0.75} + \underline{0.5} \times 20$$

$$= 0.25 \times 63 - \underline{0.25 \times 3} + \underline{0.25 \times 2} \times 20$$

$$= 0.25 \times (63 - 3 + 40)$$

$$= 0.25 \times 100$$

$$= \underline{\underline{25}}$$

$$(6) \frac{156}{\square + 156} = \frac{13}{17} \rightarrow \frac{13 \times 12}{17 \times 12} = \frac{156}{204}$$

$$\square + 156 = 204$$

$$\square = 204 - 156$$

$$= \underline{\underline{48}}$$

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$$1 \quad (1) \quad (12 \div 6 - 4) \div (8 - 3 \times 2)$$

$$= (12 - 4) \div (8 - 6)$$

$$= 8 \div 2 = \underline{\underline{4}}$$

$$(2) \quad \frac{3}{7} \times \left(\frac{5}{2} - \frac{1}{6} \right)$$

$$= \frac{3}{7} \times \frac{15-1}{6} = \frac{3}{7} \times \frac{14}{6} = \underline{\underline{1}}$$

$$(3) \quad 3.1 \times 2.9 + 0.2 \div 20$$

$$= 8.99 + 0.01$$

$$= \underline{\underline{9}}$$

$$\begin{array}{r} 3.1 \\ \times 2.9 \\ \hline 279 \\ 62 \\ \hline 8.99 \end{array}$$

$$20 \overline{) 0.2} \begin{array}{r} 0.01 \\ \hline \end{array}$$

2008 海城 中学

$$1. \quad (1) \quad \left(4\frac{1}{3} + 1.6 \right) \times \frac{1}{5} \div 0.1 - \left\{ 4.8 - \left(\frac{1}{3} + 1\frac{3}{5} \right) \right\}$$

$$= \left(4\frac{5}{15} + 1\frac{9}{15} \right) \times \frac{1}{5} \times \frac{10}{1} - \left\{ 4\frac{12}{15} - \left(\frac{5}{15} + 1\frac{9}{15} \right) \right\}$$

$$= 5\frac{14}{15} \times 2 - \left(4\frac{12}{15} - 1\frac{14}{15} \right)$$

$$= \frac{89}{15} \times 2 - 2\frac{13}{15}$$

$$= \frac{178}{15} - \frac{43}{15}$$

$$= \frac{135}{15}$$

$$= \frac{27}{3} = \underline{\underline{9}}$$

2008 學習院中等科

1. (1) $137 \times 89 - 79 \times 96 + 78 \times 8 + 58 \times 7 - 59 \times 95$

$$\begin{array}{r} \times 89 \\ 1233 \\ \hline 1096 \\ \hline 12193 \end{array} \quad \begin{array}{r} \times 96 \\ 874 \\ \hline 711 \\ \hline 7584 \end{array} \quad \begin{array}{r} \times 8 \\ 624 \end{array} \quad \begin{array}{r} \times 7 \\ 406 \end{array} \quad \begin{array}{r} \times 95 \\ 295 \\ \hline 531 \\ \hline 5605 \end{array}$$

$$= 12193 - 7584 + 624 + 406 - 5605$$

$$= \begin{array}{r} 12193 \\ - 7584 \\ \hline 4609 \end{array} + \begin{array}{r} 4609 \\ 5233 \\ \hline 5639 \end{array}$$

$$\begin{array}{r} 5639 \\ - 5605 \\ \hline 34 \end{array}$$

$$= \underline{\underline{34}}$$

(2) $(2\frac{1}{3} - 1.5) \div (1.125 - \frac{2}{3})$

$$= (\frac{14}{6} - \frac{9}{6}) \div (\frac{27}{24} - \frac{16}{24})$$

$$= \frac{5}{6} \times \frac{24}{11} = \frac{20}{11} = \underline{\underline{1\frac{9}{11}}}$$

(3) $\frac{1}{3} \div (3\frac{1}{2} - \square \div \frac{3}{13}) = \frac{1}{4}$

② ①

$$\textcircled{2} = \frac{1}{3} \div \frac{1}{4} = \frac{4}{3}$$

$$\textcircled{1} = 3\frac{1}{2} - \frac{4}{3} = \frac{21}{6} - \frac{8}{6} = \frac{13}{6}$$

$$\square = \frac{3}{13} \times \frac{13}{6} = \underline{\underline{\frac{1}{2}}}$$

2008 鎌倉学園中学

$$1. (1) (3-1) \div \frac{1}{6} \times 4 \div \frac{1}{3} + 17$$

$$= 2 \times \frac{6}{1} \times 4 \times \frac{3}{1} + 17$$

$$= 144 + 17 = \underline{\underline{161}}$$

$$(2) 6\frac{1}{4} \div 1.125 \div 1\frac{2}{3} - 1\frac{1}{3}$$

$$= \frac{25}{4} \times \frac{8}{9} \times \frac{3}{5} - 1\frac{1}{3} = \frac{10}{3} - \frac{4}{3} = \underline{\underline{2}}$$

$$(3) \frac{2}{3} \times \frac{1}{5} + \left\{ \left(\frac{1}{5} - \frac{1}{7} \right) + \frac{1}{63} + \frac{1}{99} \right\} \times 2$$

$$= \frac{2}{15} + \left(\frac{2}{35} + \frac{1}{63} + \frac{1}{99} \right) \times 2 = \frac{2}{3 \times 5} + \frac{2 \times 2 \times 11 + 5 \times 11 + 5 \times 7}{5 \times 7 \times 9 \times 11} \times 2$$

$$= \frac{2}{3 \times 5} + \frac{288}{5 \times 7 \times 9 \times 11} \times 2 = \frac{2 \times 7 \times 11 + 3 \times 32 \times 2}{3 \times 5 \times 7 \times 11} = \frac{346}{1155}$$

$$(4) \frac{1}{8 \times 502} + \frac{1}{8 \times 753} + \frac{1}{8 \times 1506}$$

$$= \frac{1}{8 \times 2 \times 251} + \frac{1}{8 \times 3 \times 251} + \frac{1}{8 \times 6 \times 251} = \frac{3 + 2 + 1}{8 \times 6 \times 251} = \frac{1}{8 \times 251} = \underline{\underline{\frac{1}{2008}}}$$

$$2. (1) \frac{1}{12} \div \left\{ \frac{2}{3} - \left(\square - \frac{1}{6} \right) + 0.375 \right\} \div \frac{2}{5} = \frac{5}{14}$$

$$\text{②} \quad \text{①} \quad \text{③}$$

$$\text{④} = \frac{5}{14} \times \frac{2}{5} = \frac{1}{7}$$

$$\text{③} = \frac{1}{12} \div \frac{1}{7} = \frac{7}{12}$$

$$\text{②} = \frac{7}{12} - \frac{3}{8} = \frac{5}{24}$$

$$\text{①} = \frac{2}{3} - \frac{5}{24} = \frac{11}{24}$$

$$\square = \frac{11}{24} + \frac{1}{6} = \frac{15}{24} = \frac{5}{8}$$