数学

１次式
分数の１次式の加法・減法

1 次の計算をしなさい。

① $\left(\frac{2}{3}x+\frac{1}{3}\right)+\left(\frac{2}{7}x+\frac{1}{4}\right)$

② $\left(-\frac{4}{7}x+\frac{5}{6}\right)-\left(\frac{2}{5}x-\frac{3}{4}\right)$

③ $\left(\frac{1}{7}x-\frac{1}{5}\right)-\left(-\frac{2}{3}x-\frac{1}{2}\right)$

④ $\left(-\frac{3}{8}x-\frac{6}{7}\right)+\left(\frac{1}{3}x-\frac{1}{6}\right)$

⑤ $\left(-\frac{1}{3}x+\frac{3}{4}\right)+\left(\frac{1}{8}x+\frac{2}{5}\right)$

⑥ $\left(-\frac{2}{5}x+\frac{2}{7}\right)-\left(-\frac{2}{8}x-\frac{1}{2}\right)$

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① $\left(\frac{2}{3}x+\frac{1}{3}\right)+\left(\frac{2}{7}x+\frac{1}{4}\right)$

$=\frac{2}{3}x+\frac{1}{3}+\frac{2}{7}x+\frac{1}{4}$

$=\frac{2}{3}x+\frac{2}{7}x+\frac{1}{3}+\frac{1}{4}$

$=\frac{14}{21}x+\frac{6}{21}x+\frac{4}{12}+\frac{3}{12}$

$=\frac{20}{21}x+\frac{7}{12}$

② $\left(-\frac{4}{7}x+\frac{5}{6}\right)-\left(\frac{2}{5}x-\frac{3}{4}\right)$

$=-\frac{4}{7}x+\frac{5}{6}-\frac{2}{5}x+\frac{3}{4}$

$=-\frac{4}{7}x-\frac{2}{5}x+\frac{5}{6}+\frac{3}{4}$

$=-\frac{20}{35}x-\frac{14}{35}x+\frac{10}{12}+\frac{9}{12}$

$=-\frac{34}{35}x+\frac{19}{12}$

③ $\left(\frac{1}{7}x-\frac{1}{5}\right)-\left(-\frac{2}{3}x-\frac{1}{2}\right)$

$=\frac{1}{7}x-\frac{1}{5}+\frac{2}{3}x+\frac{1}{2}$

$=\frac{1}{7}x+\frac{2}{3}x-\frac{1}{5}+\frac{1}{2}$

$=\frac{3}{21}x+\frac{14}{21}x-\frac{2}{10}+\frac{5}{10}$

$=\frac{17}{21}x+\frac{3}{10}$

④ $\left(-\frac{3}{8}x-\frac{6}{7}\right)+\left(\frac{1}{3}x-\frac{1}{6}\right)$

$=-\frac{3}{8}x-\frac{6}{7}+\frac{1}{3}x-\frac{1}{6}$

$=-\frac{3}{8}x+\frac{1}{3}x-\frac{6}{7}-\frac{1}{6}$

$=-\frac{9}{24}x+\frac{8}{24}x-\frac{36}{42}-\frac{7}{42}$

$=-\frac{1}{24}x-\frac{43}{42}$

⑤ $\left(-\frac{1}{3}x+\frac{3}{4}\right)+\left(\frac{1}{8}x+\frac{2}{5}\right)$

$=-\frac{1}{3}x+\frac{3}{4}+\frac{1}{8}x+\frac{2}{5}$

$=-\frac{1}{3}x+\frac{1}{8}x+\frac{3}{4}+\frac{2}{5}$

$=-\frac{8}{24}x+\frac{3}{24}x+\frac{15}{20}+\frac{8}{20}$

$=-\frac{5}{24}x+\frac{23}{20}$

⑥ $\left(-\frac{2}{5}x+\frac{2}{7}\right)-\left(-\frac{2}{8}x-\frac{1}{2}\right)$

$=-\frac{2}{5}x+\frac{2}{7}+\frac{2}{8}x+\frac{1}{2}$

$=-\frac{2}{5}x+\frac{2}{8}x+\frac{2}{7}+\frac{1}{2}$

$=-\frac{16}{40}x+\frac{10}{40}x+\frac{4}{14}+\frac{7}{14}$

$=-\frac{6}{40}x+\frac{11}{14}=-\frac{3}{20}x+\frac{11}{14}$