⑪ 分数の計算

解答

①

□(1) $\dfrac{1}{7}$

□(2) $\dfrac{2}{3}$

□(3) ア 12　イ 12

□(4) ア $\dfrac{1}{3}$　イ $\dfrac{1}{6}$

□(5) ア $\dfrac{1}{6}$　イ $\dfrac{7}{11}$

②

□(1) $\dfrac{5}{6}$

□(2) $\dfrac{2}{3}$

□(3) 11

□(4) 14

□(5) 5

③

□(1) $\dfrac{11}{30}$

□(2) $\dfrac{1}{24}$

□(3) $\dfrac{3}{14}$

□(4) $\dfrac{1}{8}$

□(5) $\dfrac{3}{28}$

□(6) 2

□(7) $\dfrac{3}{5}$

□(8) $\dfrac{1}{12}$

□(9) $\dfrac{4}{3}$

□(10) $\dfrac{2}{3}$

解説

＊分数でも次のきまりが成り立つ

● たし算
$$\square + \bigcirc = \bigcirc + \square$$
$$(\square + \bigcirc) + \triangle = \square + (\bigcirc + \triangle)$$

● かけ算
$$\square \times \bigcirc = \bigcirc \times \square$$
$$(\square \times \bigcirc) \times \triangle = \square \times (\bigcirc \times \triangle)$$

● （ ）を使った計算
$$(\square + \bigcirc) \times \triangle = \square \times \triangle + \bigcirc \times \triangle$$
$$(\square - \bigcirc) \times \triangle = \square \times \triangle - \bigcirc \times \triangle$$

② (1) $\dfrac{2}{7} \times \dfrac{5}{6} + \dfrac{5}{7} \times \dfrac{5}{6}$

$= \left(\dfrac{2}{7} + \dfrac{5}{7}\right) \times \dfrac{5}{6}$

$= 1 \times \dfrac{5}{6}$

$= \dfrac{5}{6}$

(2) $\dfrac{5}{8} \times \dfrac{2}{3} + \dfrac{2}{3} \times \dfrac{3}{8}$

$= \dfrac{5}{8} \times \dfrac{2}{3} + \dfrac{3}{8} \times \dfrac{2}{3}$

$= \left(\dfrac{5}{8} + \dfrac{3}{8}\right) \times \dfrac{2}{3}$

$= 1 \times \dfrac{2}{3}$

$= \dfrac{2}{3}$

(3) $\left(\dfrac{3}{4} + \dfrac{1}{6}\right) \times 12$

$= \dfrac{3}{4} \times 12 + \dfrac{1}{6} \times 12$

$= 9 + 2$

$= 11$

(4) $\left(\dfrac{2}{5} - \dfrac{1}{6}\right) \times 60$

$= \dfrac{2}{5} \times 60 - \dfrac{1}{6} \times 60$

$= 24 - 10$

$= 14$

(5) $42 \times \left(\dfrac{4}{21} - \dfrac{1}{14}\right)$

$= 42 \times \dfrac{4}{21} - 42 \times \dfrac{1}{14}$

$= 8 - 3$

$= 5$

③ (1) $\dfrac{1}{5} + \dfrac{1}{2} - \dfrac{1}{3}$

$= \dfrac{6}{30} + \dfrac{15}{30} - \dfrac{10}{30}$

$= \dfrac{11}{30}$

(6) $\dfrac{3}{8} \div \dfrac{3}{5} \div \dfrac{5}{16}$

$= \dfrac{3 \times 5 \times \overset{2}{\cancel{16}}}{\underset{1}{\cancel{8}} \times \cancel{3} \times \cancel{5}}$

$= 2$

(7) $\left(\dfrac{5}{6} + \dfrac{2}{3}\right) \times \dfrac{2}{5}$

$= \left(\dfrac{5}{6} + \dfrac{4}{6}\right) \times \dfrac{2}{5}$

$= \dfrac{\overset{3}{\cancel{9}}}{\underset{2}{\cancel{6}}} \times \dfrac{2}{5}$

$= \dfrac{3 \times \overset{1}{\cancel{2}}}{\underset{1}{\cancel{2}} \times 5} = \dfrac{3}{5}$