

数学科 方程式マスター H-⑤

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次の方程式を解きなさい。

① $\frac{1}{2}x + \frac{1}{3}(2x-1) = 2$

④ $2x - \frac{x-2}{5} = -2$

② $\frac{x}{60} + \frac{10-x}{90} = \frac{7}{60}$

⑤ $\frac{3x+1}{5} - \frac{5x-2}{6} = 1$

③ $\frac{x-1}{9} = \frac{x+1}{6}$

⑥ $\frac{4x+4}{3} - \frac{14x+5}{15} = -1$

次の方程式を解きなさい。

① $\frac{1}{2}x + \frac{1}{3}(2x-1) = 2$

$6\left\{\frac{1}{2}x + \frac{1}{3}(2x-1)\right\} = 6 \times 2$

$3x + 2(2x-1) = 12$

$3x + 4x - 2 = 12$

$7x - 2 = 12$

$7x = 12 + 2$

$7x = 14$

$7x \div 7 = 14 \div 7$

$x = 2$

② $\frac{x}{60} + \frac{10-x}{90} = \frac{7}{60}$

$180\left\{\frac{x}{60} + \frac{10-x}{90}\right\} = 180 \times \frac{7}{60}$

$3x + 2(10-x) = 21$

$3x + 20 - 2x = 21$

$x + 20 = 21$

$x = 21 - 20$

$x = 1$

③ $\frac{x-1}{9} = \frac{x+1}{6}$

$18 \times \frac{x-1}{9} = 18 \times \frac{x+1}{6}$

$2(x-1) = 3(x+1)$

$2x - 2 = 3x + 3$

$2x - 3x = 2 + 3$

$-x = 5$

$x = -5$

④ $2x - \frac{x-2}{5} = -2$

$5\left\{2x - \frac{x-2}{5}\right\} = 5 \times (-2)$

$10x + 5 \times \left\{-\frac{x-2}{5}\right\} = -10$

$10x - (x-2) = -10$

$10x - x + 2 = -10$

$9x + 2 = -10$

$9x = -10 - 2$

$9x = -12$

$9x \div 9 = -12 \div 9$

$x = -\frac{12}{9}$

$x = -\frac{4}{3}$

⑤ $\frac{3x+1}{5} - \frac{5x-2}{6} = 1$

$30\left\{\frac{3x+1}{5} - \frac{5x-2}{6}\right\} = 30 \times 1$

$6(3x+1) - 5(5x-2) = 30$

$18x + 6 - 25x + 10 = 30$

$-7x + 16 = 30$

$-7x = 30 - 16$

$-7x = 14$

$-7x \div (-7) = 14 \div (-7)$

$x = -2$

⑥ $\frac{4x+4}{3} - \frac{14x+5}{15} = -1$

$15\left\{\frac{4x+4}{3} - \frac{14x+5}{15}\right\} = 15 \times (-1)$

$5(4x+4) - (14x+5) = -15$

$20x + 20 - 14x - 5 = -15$

$6x + 15 = -15$

$6x = -15 - 15$

$6x = -30$

$6x \div 6 = -30 \div 6$

$x = -5$