

数学科 方程式マスター H-③

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次の方程式を解きなさい。

① $\frac{1}{4}x + \frac{1}{2}(3x - 18) = 5$

④ $2x - \frac{x+1}{6} = 1$

② $\frac{x}{40} + \frac{19-x}{25} = \frac{7}{10}$

⑤ $\frac{5x+2}{6} - \frac{5x+5}{4} = 1$

③ $\frac{x-4}{5} = \frac{x+4}{6}$

⑥ $\frac{3x+6}{4} - \frac{9x+3}{8} = -2$

次の方程式を解きなさい。

$$\textcircled{1} \frac{1}{4}x + \frac{1}{2}(3x-18) = 5$$

$$4\left\{\frac{1}{4}x + \frac{1}{2}(3x-18)\right\} = 4 \times 5$$

$$4 \times \frac{1}{4}x + 4 \times \frac{1}{2}(3x-18) = 20$$

$$x + 2(3x-18) = 20$$

$$x + 6x - 36 = 20$$

$$7x - 36 = 20$$

$$7x = 20 + 36 \rightarrow 7x = 56 \rightarrow 7x \div 7 = 56 \div 7$$

$$x = 8 \#$$

$$\textcircled{2} \frac{x}{40} + \frac{19-x}{25} = \frac{7}{10}$$

$$200\left\{\frac{x}{40} + \frac{19-x}{25}\right\} = 200 \times \frac{7}{10}$$

$$5x + 8(19-x) = 140$$

$$5x + 152 - 8x = 140$$

$$-3x + 152 = 140$$

$$-3x = 140 - 152 \rightarrow -3x = -12 \rightarrow -3x \div (-3) = -12 \div (-3)$$

$$x = 4 \#$$

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

$$6(x-4) = 5(x+4)$$

$$6x - 24 = 5x + 20$$

$$6x - 5x = 24 + 20$$

$$x = 44 \#$$

$$\textcircled{4} 2x - \frac{x+1}{6} = 1$$

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

$$12x + 6 \times \left\{-\frac{x+1}{6}\right\} = 6$$

$$12x - (x+1) = 6$$

$$12x - x - 1 = 6$$

$$11x - 1 = 6$$

$$11x = 6 + 1$$

$$11x = 7$$

$$11x \div 11 = 7 \div 11$$

$$x = \frac{7}{11} \#$$

$$\textcircled{5} \frac{5x+2}{6} - \frac{5x+5}{4} = 1$$

$$12\left\{\frac{5x+2}{6} - \frac{5x+5}{4}\right\} = 12 \times 1$$

$$2 \times \frac{5x+2}{6} + 3 \times \left\{-\frac{5x+5}{4}\right\} = 12$$

$$2(5x+2) - 3(5x+5) = 12$$

$$10x + 4 - 15x - 15 = 12$$

$$-5x - 11 = 12$$

$$-5x = 12 + 11$$

$$-5x = 23 \rightarrow -5x \div (-5) = 23 \div (-5)$$

$$x = -\frac{23}{5} \#$$

$$\textcircled{6} \frac{3x+6}{4} - \frac{9x+3}{8} = -2$$

$$24\left\{\frac{3x+6}{4} - \frac{9x+3}{8}\right\} = 24 \times (-2)$$

$$6 \times \frac{3x+6}{4} + 3 \times \left\{-\frac{9x+3}{8}\right\} = -48$$

$$6(3x+6) - 3(9x+3) = -48$$

$$18x + 36 - 27x - 9 = -48$$

$$-9x + 27 = -48$$

$$-9x = -48 - 27$$

$$-9x = -75 \rightarrow -9x \div (-9) = -75 \div (-9)$$

$$x = \frac{75}{9}$$

$$x = \frac{25}{3} \#$$