

第十課 一元一次方程式(第十級)

例題

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

$$\frac{1}{2}x - \frac{3}{2}x = 3$$

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

$$\frac{-2}{2}x = 3$$

$$-x = 3$$

$$x = -3$$

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

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

$$\frac{(2-21)}{6}x = -\frac{1}{5}$$

$$\frac{-19}{6}x = -\frac{1}{5}$$

$$x = \frac{-\frac{1}{5}}{\frac{-19}{6}}$$

$$x = -\frac{1}{5} \times \frac{6}{-19}$$

$$x = \frac{6}{95}$$

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

$$-\frac{1}{2}x - \frac{5}{2}x = -1$$

$$\frac{-6}{2}x = -1$$

$$-3x = -1$$

$$x = \frac{1}{3}$$

$$(4) \quad -\frac{5}{3}x + 2 = \frac{7}{3}x$$

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

$$\frac{-12}{3}x = -2$$

$$-4x = -2$$

$$x = \frac{-2}{-4}$$

$$x = \frac{1}{2}$$

$$(5) \quad -\frac{3}{4}x + 7 = \frac{1}{3}x$$

$$-\frac{3}{4}x - \frac{1}{3}x = -7$$

$$\frac{(-9 - 4)}{12}x = -7$$

$$\frac{-13}{12}x = -7$$

$$x = \frac{-7}{\frac{-13}{12}}$$

$$x = (-7) \times \left(-\frac{12}{13}\right)$$

$$x = \frac{84}{13}$$

$$(6) \quad \frac{-7}{3}x + 1 = \frac{2}{3}x$$

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

$$\frac{-11}{3}x = -1$$

$$x = \frac{-1}{\frac{-11}{3}}$$

$$x = (-1) \times \left(-\frac{3}{11}\right)$$

$$x = \frac{3}{11}$$

$$(7) \quad \frac{5}{2}x - \frac{1}{3} = \frac{7}{2}x$$

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

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

$$\frac{-2}{2}x = \frac{1}{3}$$

$$-x = \frac{1}{3}$$

$$x = -\frac{1}{3}$$

$$(8) \quad \frac{1}{3}x - \frac{5}{2} = \frac{-2}{3}x$$

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

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

$$\frac{3}{3}x = \frac{5}{2}$$

$$x = \frac{5}{2}$$

$$(9) \quad \frac{x}{4} - 1 = \frac{-3}{4}x$$

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

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

$$\frac{4}{4}x = 1$$

$$x = 1$$

$$(10) \quad \frac{-2}{3}x - \frac{1}{5} = \frac{7}{3}x$$

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

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

$$\frac{-9}{3}x = \frac{1}{5}$$

$$-3x = \frac{1}{5}$$

$$x = \frac{\frac{1}{5}}{-3}$$

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

$$x = -\frac{1}{15}$$

$$(11) -\frac{x}{3} + 2 = \frac{-5}{3}x$$

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

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

$$\frac{4}{3}x = -2$$

$$x = \frac{-2}{\frac{4}{3}}$$

$$x = (-2) \times \frac{3}{4}$$

$$x = -\frac{3}{2}$$

$$(12) \frac{x}{5} + 1 = \frac{2}{5}x$$

$$\frac{x}{5} - \frac{2}{5}x = -1$$

$$\frac{1-2}{5}x = -1$$

$$\frac{-1}{5}x = -1$$

$$x = \frac{-1}{-\frac{1}{5}}$$

$$x = (-1) \times \left(-\frac{5}{1}\right)$$

$$x = 5$$

$$(13) \frac{x}{2} - 1 = \frac{5}{2}x$$

$$\frac{x}{2} - \frac{5}{2}x = 1$$

$$\frac{1 - 5}{2}x = 1$$

$$\frac{-4}{2}x = 1$$

$$-2x = 1$$

$$x = -\frac{1}{2}$$

$$(14) -\frac{x}{2} - 3 = \frac{7}{2}x$$

$$-\frac{x}{2} - \frac{7}{2}x = 3$$

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

$$\frac{-8}{2}x = 3$$

$$-4x = 3$$

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

$$(15) -\frac{x}{2} + 5 = \frac{3}{2}x$$

$$-\frac{x}{2} - \frac{3}{2}x = -5$$

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

$$\frac{-4}{2}x = -5$$

$$-2x = -5$$

$$x = \frac{5}{2}$$

習題	答案
(1) $\frac{x}{2} - 1 = \frac{3}{2}x$	$x = -1$
(2) $\frac{2}{3}x + 2 = \frac{x}{3}$	$x = -6$
(3) $\frac{-5}{3}x + 2 = \frac{x}{3}$	$x = 1$
(4) $-x + \frac{1}{2} = \frac{x}{3}$	$x = \frac{3}{8}$
(5) $x + \frac{1}{3} = \frac{x}{5}$	$x = -\frac{5}{12}$
(6) $\frac{-7}{3}x + \frac{3}{2} = \frac{5}{3}x$	$x = \frac{3}{8}$
(7) $-\frac{x}{3} + \frac{1}{5} = \frac{5}{3}x$	$x = \frac{1}{10}$
(8) $-\frac{3}{2}x + 7 = -\frac{5}{2}x$	$x = -7$
(9) $-3x + 1 = \frac{x}{2}$	$x = \frac{2}{7}$
(10) $-\frac{x}{3} - 2 = \frac{7}{2}x$	$x = -\frac{12}{23}$
(11) $\frac{x}{3} - 3 = \frac{-5}{3}x$	$x = \frac{3}{2}$
(12) $\frac{x}{3} + 1 = \frac{-x}{2}$	$x = -\frac{6}{5}$
(13) $\frac{-2x}{3} + 1 = \frac{x}{2}$	$x = \frac{6}{7}$
(14) $-\frac{7}{2}x - 1 = \frac{x}{3}$	$x = -\frac{6}{23}$
(15) $-\frac{x}{3} + 5 = \frac{2}{3}x$	$x = 5$