Answer Key

Math 082 Practice Test #1

① $2x + 4 + 8x - 6 = \boxed{10x - 2}$

$10x \quad -2$

② $3(-4x - 2) + 4 = -12x - 6 + 4$

$= \boxed{-12x - 2}$

③ $\frac{-\cancel{4}x}{-\cancel{4}} = \frac{16}{-4}$

$\boxed{x = -4}$

④ $2x - \cancel{5} = -7$

$+\cancel{5} \quad +5$

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

$\boxed{x = -1}$

⑤ $-3x + 4x - 2 = 12$

$x - \cancel{2} = 12$

$+\cancel{2} \quad +2$

$\boxed{x = 14}$

⑥ $\cancel{2x} - 5 = 4x - 23$

$-\cancel{2x} \quad -2x$

$-5 = 2x - \cancel{23}$

$+23 \quad +\cancel{23}$

$\frac{18}{2} = \frac{\cancel{2}x}{\cancel{2}}$

$9 = x$

$\boxed{x = 9}$

⑦ $2(3x - 5) = 8x + 24$

$\cancel{6x} - 10 = 8x + 24$

$-\cancel{6x} \quad -6x$

$-10 = 2x + \cancel{24}$

$-24 \quad -\cancel{24}$

$\frac{-34}{2} = \frac{2x}{2}$

$-17 = x$

$\boxed{x = -17}$

⑧ $3a + \cancel{8b} = 4c$

$\quad -\cancel{8b} \quad -8b$

$\frac{\cancel{3}a}{\cancel{3}} = \frac{4c - 8b}{3}$

$$\boxed{a = \frac{4c - 8b}{3}}$$

⑨ $\frac{5b}{2} - \cancel{2c} = 4c + 5$

$\quad +\cancel{2c} \quad +2c$

$\cancel{2} \cdot \frac{5b}{\cancel{2}} = (6c + 5)(2)$

$\frac{\cancel{5}b}{\cancel{5}} = \frac{12c + 10}{5}$

$$\boxed{b = \frac{12c + 10}{5}}$$

⑫ $\frac{1}{2}\left(\frac{2}{3}x - \frac{4}{5}\right) + \frac{3}{5}$

$= \frac{2}{6}x - \frac{4}{10} + \frac{3}{5}$

$= \frac{1}{3}x - \frac{4}{10} + \frac{6}{10}$

$= \frac{1}{3}x + \frac{2}{10}$

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

⑩ $-3x + \cancel{4} > 16$

$\quad -\cancel{4} \quad -4$

$\frac{-\cancel{3}x}{-\cancel{3}} > \frac{12}{-3}$

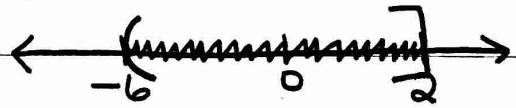
$$\boxed{x < -4}$$

⑪ $-18 < 2x - \cancel{6} \leq -2$

$\quad +6 \quad +\cancel{6} \quad +6$

$\frac{-12}{2} < \frac{\cancel{2}x}{\cancel{2}} \leq \frac{4}{2}$

$$\boxed{-6 < x \leq 2}$$



minus

⑬ $-4x - \cancel{8} > 12$ or $3x + \cancel{8} > 11$

$\quad +\cancel{8} \quad +8 \qquad\qquad -\cancel{8} \quad -8$

$\frac{-\cancel{4}x}{-\cancel{4}} > \frac{20}{-4}$ or $\frac{\cancel{3}x}{\cancel{3}} > \frac{9}{3}$

$x < -5$ or $x > 3$