

[4th Kyu]**Section 1: Calculation Test****1**

Simplify.

(1) $2\frac{2}{3} \times \frac{3}{16}$

(2) $\frac{14}{15} \div 1\frac{2}{5}$

(3) $\frac{5}{18} \times \frac{9}{10} \times \frac{2}{7}$

(4) $\frac{7}{12} \times 0.6 \div 2\frac{5}{8}$

(5) $7 \div 9 - 1 \div 6$

(6) $12 - (-5)$

(7) $(-3)^2 + (-5^2)$

(8) $(6x - 4) - (8x + 1)$

(9) $\frac{5x+1}{6} - \frac{x+3}{2}$

(10) $8\left(\frac{1}{4}x - 5\right) - 6\left(\frac{2}{3}x - 9\right)$

2

Answer the following.

(11) How many minutes is $\frac{1}{6}$ hours?

(12) How many m is 120 cm?

(13) How many m^2 is 40000 cm^2 ?

3

Write each of the following ratios in simplest form.

(14) $30:36$

(15) $0.27:0.9$

4Find the values of the following expressions when $x = 3$ and $y = -5$.

(16) $6x + 2y$

(17) $x^2 + xy$

5Solve for x in the following equations.

(18) $14x - 3 = 9x - 13$

(19) $0.7x + 0.4 = x - 0.5$

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

6

Simplify.

(21) $5(7x - 2y) - 8(4x + 7y)$

(22) $\frac{4x - 7y}{3} - \frac{5x - 9y}{4}$

7

Solve the following systems of equations.

(23)
$$\begin{cases} 2x + 5y = 2 \\ 4x - y = -18 \end{cases}$$

(24)
$$\begin{cases} 3x + 2y = -4 \\ y = -3x + 1 \end{cases}$$

8

Simplify.

(25) $7xy^2 \times (-2xy)^2$

(26) $12xy \times 8x^2y^2 \div 48x^2y^3$

9

Answer the following.

(27) Solve for a in the equation $S = ah$, where $h > 0$.

(28) Find the value of y when $x = -4$ in the linear function $y = -2x + 3$.

(29) Find the measure of each interior angle of a regular decagon. A decagon is a 10-sided polygon.

(30) In the diagram below, find $\angle x$ when $l \parallel m$.

