

PS 3 Key

$$(1) x^2 - 36 = 5x$$

$$(9)^2 - 36 = 5(9)$$

$$81 - 36$$

$$45$$

$$\frac{-36}{45} = 45 \checkmark$$

$$(2) \frac{33 \div 3}{54 \div 3} = \frac{11}{18}$$

$$(5) -5\frac{2}{5} = -\frac{27}{5}$$

$$-2\frac{1}{4} = -\frac{9}{4}$$

$$\frac{-27}{5} \div -\frac{9}{4} \rightarrow \frac{-27}{5} \cdot \frac{4}{-9} = \frac{12}{5} \text{ or } 2\frac{2}{5}$$

$$(3) 3\{[6(x-1)+4] - [2(3x-1)+4]\}$$

$$3\{[6x-6+4] - [6x-2+4]\}$$

$$3\{[6x-2] - [6x+2]\}$$

$$3\{[6x-2-6x-2]\}$$

$$3\{-4\} \rightarrow \text{or } 3(-4) = \boxed{-12}$$

$$(4) \frac{11}{3} \cdot \frac{1}{x^3} = \frac{11}{3} \text{ or } 3\frac{2}{3}$$

$$(6) \quad \frac{1}{8} + \frac{1}{9} = \frac{9}{72} + \frac{8}{72} = \boxed{\frac{17}{72}}$$

$$(7) \quad \left(\frac{1}{4}\right)^2 \left(\frac{2}{3} - \frac{5}{18}\right) = \frac{1}{16} \cdot \frac{2}{3} - \frac{5}{18}$$

$$\frac{1}{4} \left(\frac{12}{18} - \frac{5}{18}\right) \rightarrow \frac{1}{4} \left(\frac{7}{18}\right) = \frac{7}{72}$$

$$(8) \quad \frac{12^2 - 14}{45 - 2(3+1)^2} = \frac{144 - 14}{45 - 2(4)^2} = \frac{130}{45 - 2(16)} \rightarrow \frac{130}{45 - 32}$$

$$\frac{130}{13} = \boxed{10}$$

$$(9) \quad -9x + 3(-2x - 2) = -13 - 8x$$

$$-9x - 6x - 6 = -13 - 8x$$

$$-15x - 6 = -13 - 8x$$

$$\begin{array}{r} -15x - 6 = -13 - 8x \\ +15x \quad +13 \quad \quad +13 \quad +8x \\ \hline 7 = 7x \end{array}$$

$\boxed{x=1}$

(10)

$$\frac{326-307}{307} \times 100 \rightarrow \frac{19}{307} \times 100$$

6.2%