

Challenge 8 PS 2

$$(1) x^2 - 7 = 6x \quad x = 7$$

$$49 - 7 = 6(7)$$

$$42 = 42 \quad \checkmark$$

$$(2) \frac{65}{90} \div \frac{5}{5} \quad \boxed{\frac{13}{18}}$$

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

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

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

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

$$3 \{ -4 \}$$

$$\times \quad \boxed{-12}$$

$$(4) \quad \frac{10}{20} \cdot \frac{5}{8} = \frac{50}{160} = \frac{5}{16} = 16\frac{2}{3}$$

$$(5) \quad \frac{-29}{7} - \frac{-13}{6} = \frac{-29}{7} + \frac{13}{6} = \frac{-174 + 91}{42} = \frac{-83}{42}$$

$$(6) \quad \left(\frac{8}{8}\right) \frac{7}{3} + \frac{1}{8} \left(\frac{3}{3}\right)$$

$$\frac{56}{24} + \frac{3}{24} \rightarrow \frac{59}{24} = 2\frac{11}{24}$$

$$(7) \quad \left(\frac{1}{3}\right)^2 \left(\frac{2}{2}\right) \frac{2}{3} - \frac{1}{2} \left(\frac{3}{3}\right)$$

$$\frac{1}{9} \left[\frac{4}{6} - \frac{3}{6}\right]$$

$$\frac{1}{9} \left(\frac{1}{6}\right) \rightarrow \frac{1}{54}$$

(8)

$$\frac{144-14}{45-2(3+1)^2}$$

$$\frac{130}{45-2(4)^2}$$

$$\frac{130}{45-2(16)} \rightarrow \frac{130}{45-32} \rightarrow \frac{130}{13}$$

10

(9)

$$2x + 7(3x-5) = -8-4y$$

$$2x + 21x - 35 = -8-4y$$

$$23x - 35 = -8-4y$$

$$+4y \quad +35 \quad +35+4y$$

$$27x = 27$$

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$$2(1) + 7(3(1)-5) = -8-4(1)$$

$$2 + 7(-2) = -12$$

$$2 - 14 = -12 \quad \checkmark$$

$$-12 = -12$$

$$x = 1$$



(10)

$$\frac{383-354}{354} \times 100$$

$$\frac{29}{354} \times 100$$

$$\frac{\text{New-old}}{\text{old}} \times 100$$

$$8.2\%$$