To clear fractions: ① Find common denominator of all fractions.
② Multiply EVERY term in the equation by the common denominator.

Principles of Algebra Name/Date Clee/Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 3D.2 – More Solving Special Equations

#1-5, Solve each equation.

1. $2d - 2 = \frac{d}{3} - \frac{5d}{6} - \frac{7d}{2}$ (·6 ·6 ·6 ·6)

$12d - 12 = 2d - 5d - 21d$

$12d - 12 = -24d$

$-12d \quad -12d$

$-12 = -36d$

$\frac{-12}{-36} = d \longrightarrow \boxed{d = \frac{1}{3}}$

2. $8y + 6 = 4(2y + 3) - 5$

$8y + 6 = 8y + 12 - 5$

$8y + 6 = 8y + 7$

$-8y \quad -8y$

$6 = 7$

Variables have cancelled and remaining equation is FALSE.

This equation has no solution.

3. $2(3x - 1) + \frac{3x}{8} - \frac{1}{6} = \frac{x}{4} - \frac{2}{3}(6x - 12)$

$6x - 2 + \frac{3x}{8} - \frac{1}{6} = \frac{x}{4} - 4x + 8$ (·24 ·24 ·24 ·24 ·24 ·24)

$144x - 48 + 9x - 4 = 6x - 96x + 192$

$153x - 52 = -90x + 192$

$+90x \quad +90x$

$243x - 52 = 192$

$243x = 244 \rightarrow \boxed{x = \frac{244}{243}}$

4. $6(4 - 2z) = -2(5z - 5) - 2z$

$24 - 12z = -10z + 10 - 2z$

$24 - 12z = -12z + 10$

$+12z \quad +12z$

$24 = 10$

Variables have cancelled and remaining equation is FALSE.

This equation has no solution.

5. $5 + \frac{k}{2} + \frac{k}{4} = \frac{3k}{2} + 5 - \frac{3k}{4}$ (·4 ·4 ·4 ·4 ·4 ·4)

$20 + 2k + k = 6k + 20 - 3k$

$20 + 3k = 3k + 20$

$-3k \quad -3k$

$20 = 20$

Variables have cancelled and remaining equation is TRUE.

All real numbers are solutions to this equation.