AR

HW 47

1. $x = -8y + 7$

$-7 \quad -7$

$\frac{x-7}{-8} = \frac{-8y}{-8}$

$\boxed{-\frac{x-7}{8} = y}$

2. $x = \frac{y}{9} + 2$

$-2 \quad -2$

$9 \cdot x - 2 = \frac{y}{9} \cdot 9$

$\boxed{9(x-2) = y}$

3. $x = \frac{4y}{7} - 6$

$+6 \quad +6$

$7/4(x+6) = \frac{4y}{7}(7/4$

$\boxed{7/4(x+6) = y}$

4. $x = \frac{11y+2}{8} \cdot 8$

$8x = 11y + 2$

$8x - 2 = 11y$

$\boxed{\frac{8x-2}{11} = y}$

5. $x = \frac{4-y}{15}$

$15x = 4 - y$

$\frac{15x-4}{-1} = \frac{-y}{-1}$

$\boxed{-15x + 4 = y}$

6. $x = y^2 - 9$

$\sqrt{x+9} = \sqrt{y^2}$

$\boxed{y = \pm\sqrt{x+9}}$

OR $\boxed{y = (x+9)^{1/2}}$

7. $x = 2y^2 + 5$

$x - 5 = 2y^2$

$\frac{x-5}{2} = y^2$

$\boxed{y = \pm\sqrt{\frac{x-5}{2}}}$

8. $\frac{x}{4} = \frac{4y^3}{4}$

$\left(\frac{x}{4}\right)^{1/3} = (y^3)^{1/3}$

$\left(\frac{x}{4}\right)^{1/3} = y$

$\boxed{\sqrt[3]{\frac{x}{4}} = y}$

9. $\sqrt{x} = \sqrt{\left(\frac{2y}{3}\right)^2}$

$\pm\sqrt{x} = \frac{2y}{3}$

$\pm 3\sqrt{x} = 2y$

$\boxed{\pm\frac{3}{2}\sqrt{x} = y}$

10. $(x)^2 = (\sqrt{y+5})^2$

$x^2 = y + 5$

$\boxed{x^2 - 5 = y}$

11. $x = \frac{\sqrt{2y-3}}{4}$

$(4x)^2 = (\sqrt{2y-3})^2$

$16x^2 = 2y - 3$

$16x^2 + 3 = 2y$

$\boxed{\frac{16x^2+3}{2} = y}$

OR $\boxed{8x^2 + 3/2 = y}$

12. $\frac{x}{1} = \frac{2}{y}$

$xy = 2$

$\boxed{y = \frac{2}{x}}$

13. $\frac{x}{1} = \frac{5}{3y+1}$

$x(3y+1) = 5$

$3xy + x = 5$

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

$3y = \frac{5}{x} - 1$

$y = \frac{\frac{5}{x} - 1}{3}$

$\boxed{y = \frac{5}{3x} - 1/3}$

14. $\frac{x}{1} = \frac{1}{y-5}$

$x(y-5) = 1$

$y - 5 = \frac{1}{x}$

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

15. $x = \frac{\sqrt[4]{2y+7}}{5}$

$5x = \sqrt[4]{2y+7}$

$(5x)^4 = ((2y+7)^{1/4})^4$

$625x^4 = 2y + 7$

$625x^4 - 7 = 2y$

$\boxed{\frac{625x^4-7}{2} = y}$

16. $x = \frac{2}{y^2} + 3$

$x - 3 = \frac{2}{y^2}$

$y^2(x-3) = 2$

$\sqrt{y^2} = \sqrt{\frac{2}{x-3}}$

$\boxed{y = \pm\sqrt{\frac{2}{x-3}}}$