Name: Key Date: Class:

Solve each equation. (Some equations may have no solution or infinite solutions)

$p - 1 = 5p + 3p - 8$

$p-1=8p-8$
$-p \quad -p$
$-1=7p-8$
$+8 \quad +8$
$\frac{7}{7}=\frac{7p}{7}$
$1=p$

$p - 4 = -9 + 2p$

$-p \quad -p$
$-4=-9+p$
$+9 \quad +9$
$5=p$

$5n + 34 = -2(1 - 7n)$

$5n+34=-2+14n$
$-5n \quad -5n$
$34=-2+9n$
$+2 \quad +2$
$\frac{36}{9}=\frac{9n}{9}$
$4=n$

$-18 - 6k = 6(1 + 3k)$

$-18-6k=6+18k$
$+6k \quad +6k$
$-18=6+24k$
$-6 \quad -6$
$\frac{-24}{24}=\frac{24k}{24}$
$-1=k$

$5(2x-1) + x + 17 = 5x + 6(x+2)$

$10x-5+x+17=5x+6x+12$
$11x+12=11x+12$
$-12 \quad -12$
$\frac{11x}{11}=\frac{11x}{11}$
$x=x$
infinitely many sol.

$13-(2x+2) = 2(x+2) +3x$

$13-2x-2=2x+4+3x$
$11-2x=5x+4$
$+2x \quad +2x$
$11=7x+4$
$-4 \quad -4$
$\frac{7}{7}=\frac{7x}{7}$
$1=x$

$2(2d + 3) = 6(d+12)$

$4d+6=6d+72$
$-4d \quad -4d$
$6=2d+72$
$-72 \quad -72$
$\frac{-66}{2}=\frac{2d}{2}$
$-33=d$

$4x+6+3x = 5x+7+2x$

$7x+6=7x+7$
$-7x \quad -7x$
$6=7$
Never true
no solution

$\frac{1}{3}(a- 6) = 28$

$\frac{1}{3}a-2=28$
$+2 \quad +2$
$\frac{\frac{1}{3}a}{\frac{1}{3}}=\frac{30}{\frac{1}{3}}$
$a=90$

*divide by fraction
$\frac{30}{1}\cdot\frac{3}{1}$
$\frac{90}{1}=90$

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

$x-2+2x=4x-1$
$3x-2=4x-1$
$-3x \quad -3x$
$-2=x-1$
$+1 \quad +1$
$-1=x$