

1-step equations:

1.  $26 = 8 + v$       $v = 18$

6.  $3 + p = 8$       $p = 5$

2.  $15 + b = 23$       $b = 8$

7.  $-15 + n = -9$       $n = 6$

3.  $m + 4 = -12$       $m = -16$

8.  $-104 = 8x$       $x = -13$

4.  $14b = -56$       $b = -4$

9.  $-6 = \frac{b}{18}$       $b = -108$

5.  $10n = 40$       $n = 4$

10.  $\frac{v}{8} = 2$       $v = 16$

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2-step equations:

1.  $6 = \frac{a}{4} + 2$       $a = 16$

6.  $-6 + \frac{x}{4} = -5$       $x = 4$

2.  $9x - 7 = -7$       $x = 0$

7.  $0 = 4 + \frac{n}{5}$       $n = -20$

3.  $-4 = \frac{x}{20} - 5$       $x = 20$

8.  $-1 = \frac{5+x}{6}$       $x = -11$

4.  $\frac{v+9}{3} = 8$       $v = 15$

9.  $2(n+5) = -2$       $n = -6$

5.  $-9x + 1 = -80$       $x = 9$

10.  $-6 = \frac{n}{2} - 10$       $n = 8$

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Multi-step equations:

1.  $6r + 7 = 13 + 7r$

$7 = 13 + r$

$-6 = r$

2.  $-14 + 6b + 7 - 2b = 1 + 5b$

$4b - 7 = 1 + 5b$

$-8 = b$

3.  $5 + 2x = 2x + 6$

no solution

4.  $4n - 40 = 7(-2n + 2)$

$4n - 40 = -14n + 14$

$18n = 54$       $n = 3$

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

$24x - 12 = 24x + 12$

no solution

6.  $-7x - 3x + 2 = -8x - 8$

$-10x + 2 = -8x - 8$

$-2x = -10$

$x = 5$

7.  $n - 3n = 14 - 4n$

$-2n = 14 - 4n$

$n = 7$

8.  $-8n + 4(1 + 5n) = -6n - 14$

$12n + 4 = -6n - 14$

$18n = -18$

$n = -1$

9.  $-31 - 4x = -5 - 5(1 + 5x)$

$-31 - 4x = -25x - 10$

$21x = 21$

$x = 1$

10.  $4(-8x + 5) = -32x - 26$

$-32x + 20 = -32x - 26$

no solution

Homework:

1.  $x - 7 = 13$

$$x = 20$$

2.  $n + 16 = 9$

$$n = -7$$

3.  $-5 = \frac{a}{18}$

$$-90 = a$$

4.  $-143 = -11x$

$$13 = x$$

5.  $-17 = x - 15$

$$-2 = x$$

6.  $-2 = 2 + \frac{v}{4}$

$$-16 = v$$

7.  $144 = -12(x + 5)$

$$-17 = x$$

8.  $-15 = -4m + 5$

$$5 = m$$

9.  $10 - 6v = -104$

$$v = 19$$

10.  $8n + 7 = 31$

$$n = 3$$

11.  $13 - 4x = 1 - x$

$$12 = 3x$$

$$4 = x$$

12.  $n + 2 = -14 - n$

$$2n = -16$$

$$n = -8$$

13.  $-10 + x + 4 - 5 = 7x - 5$

$$-11 = 6x - 5$$

$$-1 = x$$

14.  $7(5a - 4) - 1 = 14 - 8a$

$$35a - 29 = 14 - 8a$$

$$43a = 43$$

$$a = 1$$

15.  $3(1 - 3x) = 2(-4x + 7)$

$$3 - 9x = -8x + 14$$

$$-x = 4$$

$$x = -4$$