Solving Algebraic Equations Containing Decimals *(Deal with Decimals & Clear of Decimals)* MrB4math.com

1) $3.5 + 7x = 8.4 - 3x$

$+3x \quad +3x$

$3.5 + 10x = 8.4$

$-3.5 \quad -3.5$

$10x = 4.9$

$\frac{10x}{10} = \frac{4.9}{10}$

$x = .49$

2) $9.12 = 1.0y - 0.4y$

$9.12 = .6y$

$\frac{9.12}{.6} = \frac{.6y}{.6}$

$15.2 = y$

$1.0 - .4 = .6$

$.6\overline{)9.12}$ → 15.2

-6

31

-30

12

-12

0

3) $5r + 16.2 = 2(3r - 4.03)$

$5r + 16.2 = 6r - 8.06$

$-5r \quad -5r$

$16.20 = r - 8.06$

$+8.06 \quad +8.06$

$24.26 = r$

4) $100 \quad 100 \quad 100 \quad 100$

$1.2x - 0.07 - 0.8x = 0.73$

$120x - 7 - 80x = 73$

$+7 \quad +7$

$40x = 80$

$\frac{40x}{40} = \frac{80}{40}$

$x = 2$

$120 - 80 = 40$

5) $10 \quad 10 \quad 10$

$0.3y - 2.7 = 3$

$3y - 27 = 30$

$+27 \quad +27$

$3y = 57$

$\frac{3y}{3} = \frac{57}{3}$

$y = 19$

$3\overline{)57}$ → 19

-3

27

-27

0

6) $10 \quad 10 \quad 10$

$7.0 = 100x + 0.4$

$-.4 \quad -.4$

$6.6 = 100x$

$\frac{6.6}{100} = \frac{100x}{100}$

$.066 = x$

7) $3(k - 1.2) = 12k$

$3K - 3.6 = 12K$

$-3K \quad -3K$

$-3.6 = 9K$

$\frac{-3.6}{9} = \frac{9K}{9}$

$-.4 = K$

$9\overline{)3.6}$ → $.4$

-36

0

8) $10 \quad 10 \quad 10$

$1.0x + 0.4 = 0.3x - 1$

$-.3x \quad -.3x$

$.7x + .4 = -1.0$

$-.4 \quad -.4$

$.7x = -1.4$

$\frac{.7x}{.7} = \frac{-1.4}{.7}$

$x = 2$

$.7\overline{)1.4}$ → 2

-14

0

For 4 & 5, clear of decimals, then solve.

For 9 & 10, clear of decimals, then solve.

9) $10 \quad 10 \quad 10 \quad 10$

$-2y + 5.4 = -2.1 + 0.5y$

$-20y + 54 = -21 + 5y$

$+20y \quad +20y$

$54 = -21 + 25y$

$+21 \quad +21$

$75 = 25y$

$\frac{75}{25} = \frac{25y}{25}$

$3 = y$

10) $100 \quad 100$

$0.08 = 0.02x$

$\frac{8}{2} = \frac{2x}{2}$

$4 = x$

11) $4.7 + 9y - 1.2 = 2y$

$-9y \quad -9y$

$3.5 = -7y$

$\frac{3.5}{-7} = \frac{-7y}{-7}$

$-.5 = y$

$4.7 - 1.2 = 3.5$

$7\overline{)3.5}$ → $.5$

-35

0

12) $0.3x - 5.8 = 1.0x - 7.9$

$-.3x \quad -.3x$

$-5.8 = .7x - 7.9$

$+7.9 \quad +7.9$

$2.1 = .7x$

$\frac{2.1}{.7} = \frac{.7x}{.7}$

$3 = x$

$7.9 - 5.8 = 2.1$

$.7\overline{)2.1}$ → 3

-21

0

13) $2r = -4(2r + 7.1)$

$2r = -8r - 28.4$

$+8r \quad +8r$

$10r = -28.4$

$\frac{10r}{10} = \frac{-28.4}{10}$

$r = -2.84$

For14&15, clear of decimals, then solve.

14) $100 \quad 100 \quad 100 \quad 100$

$-1.02 = 0.3x + 0.48 + 0.2x$

$-102 = 30x + 48 + 20x$

$-48 \quad -48$

$-150 = 50x$

$\frac{-150}{50} = \frac{50x}{50}$

$-3 = x$

15) $10 \quad 10 \quad 10$

$0.4y - 3.1 = 0.5$

$4y - 31 = 5$

$+31 \quad +31$

$4y = 36$

$\frac{4y}{4} = \frac{36}{4}$

$y = 9$