

Linear Equation Problems — Fractional

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Solve each of the following equations. Write complete and correct steps for all problems. Do not use a calculator. Work the odd problems, if you have any trouble whatsoever also do the even problems. Work all the review problems.

$$(1) \quad \frac{4}{5}x = 5$$

$$(2) \quad \frac{2}{7}y = 7$$

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

$$(4) \quad 4b = \frac{1}{12}$$

$$(5) \quad \frac{8s}{3} = 14$$

$$(6) \quad \frac{12t}{5} = 18$$

$$(7) \quad \frac{9}{4}y = 8$$

$$(8) \quad \frac{7}{3}x = 6$$

$$(9) \quad 4 - \frac{t}{2} = 6$$

$$(10) \quad 3 - \frac{s}{3} = 12$$

$$(11) \quad \frac{2x}{7} = \frac{7}{8}$$

$$(12) \quad \frac{6y}{5} = \frac{5}{3}$$

$$(13) \quad \frac{t-12}{4} = 2$$

$$(14) \quad \frac{s-18}{3} = 6$$

$$(15) \quad \frac{b}{2} - \frac{b}{5} = \frac{1}{10}$$

$$(16) \quad \frac{a}{5} - \frac{a}{3} = \frac{1}{5}$$

$$(17) \quad 4\frac{y}{6} - 4 = \frac{2}{3}y + 1$$

$$(18) \quad 5 - \frac{3x}{12} = 7 - \frac{1}{4}x$$

$$(19) \quad \frac{8}{z} - \frac{6}{z} = 4$$

$$(20) \quad \frac{12}{y} - \frac{8}{y} = 6$$

$$(21) \quad \frac{2}{3}y - 5 = \frac{5y}{3} - \frac{1}{2}$$

$$(22) \quad \frac{5}{7}x - 3 = \frac{3x}{14} - \frac{1}{2}$$

$$(23) \quad \frac{10}{15}m - \frac{9}{4}m = \frac{7}{6}$$

$$(24) \quad \frac{4}{3}n - \frac{10}{12}n = \frac{2}{9}$$

$$(25) \quad \frac{3c-2}{4c-3} = \frac{2}{8}$$

$$(26) \quad \frac{5d-3}{6d-10} = \frac{3}{18}$$

$$(27) \quad \frac{3}{2y-6} = \frac{5}{2y}$$

$$(28) \quad \frac{4}{3x-12} = \frac{7}{3x}$$

$$(29) \quad \frac{3w-8}{4} - \frac{8w-1}{2} = \frac{1}{4}$$

$$(30) \quad \frac{4w-3}{6} - \frac{5w-3}{2} = \frac{1}{3}$$

$$(31) \quad \frac{2}{4}(3c-3) - \frac{3}{5}(7c+5) = 3$$

$$(32) \quad \frac{3}{2}(3d-2) - \frac{4}{6}(2d-4) = 4$$

$$(33) \quad \frac{2d-3}{2} - \frac{3d-4}{3} = -\left(\frac{1}{6}\right)$$

$$(34) \quad \frac{4c-3}{2} - \frac{10c-7}{5} = -\left(\frac{1}{10}\right)$$

The following are review problems. Work all of them.

$$(35) \quad \frac{3}{4}x = 8$$

$$(36) \quad \frac{4s-4}{3s-8} = \frac{4}{3}$$

$$(37) \quad \frac{b}{3} - \frac{3b}{4} = \frac{4}{18}$$

$$(38) \quad \frac{6z-3}{2} - \frac{1}{3} = \frac{2z-5}{5}$$

$$(39) \quad \frac{7a-5}{4} = \frac{-(6a+3)}{5}$$

$$(40) \quad \frac{2}{3s-4} = \frac{-5}{2s-1}$$

$$(41) \quad \frac{3-x}{3} - \frac{4x-3}{4} = \frac{-5}{6}$$

$$(42) \quad \frac{2}{3}(c+2) - \frac{3}{5}(c+4) = 3c+2$$

- Answers: (1) $\frac{25}{4}$ (2) $\frac{49}{2}$ (3) $\frac{1}{18}$ (4) $\frac{1}{48}$ (5) $\frac{21}{4}$ (6) $\frac{15}{2}$ (7) $\frac{32}{9}$ (8) $\frac{18}{7}$
- (9) -4 (10) -27 (11) $\frac{49}{16}$ (12) $\frac{25}{18}$ (13) 20 (14) 36 (15) $\frac{1}{3}$ (16) $-\frac{3}{2}$
- (17) No Solution (18) No Solution (19) $\frac{1}{2}$ (20) $\frac{2}{3}$ (21) $-\frac{9}{2}$ (22) 5 (23) $-\frac{14}{19}$
- (24) $\frac{4}{9}$ (25) $\frac{5}{8}$ (26) $\frac{1}{3}$ (27) $\frac{15}{2}$ (28) $\frac{28}{3}$ (29) $-\frac{7}{13}$ (30) $\frac{4}{11}$ (31) $-\frac{25}{9}$
- (32) $\frac{26}{19}$ (33) All Real Numbers (34) All Real Numbers (35) $\frac{32}{3}$ (36) No Solution
- (37) $-\frac{8}{15}$ (38) $\frac{25}{78}$ (39) $\frac{13}{59}$ (40) $\frac{22}{19}$ (41) $\frac{31}{16}$ (42) $-\frac{23}{22}$