

## Worksheet #26—Simple Algebraic and Arithmetic Fraction Problems

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Simplify each of the following problems to one single fraction.

(1)  $\left(\frac{2}{3}\right)\left(\frac{4}{5}\right)$

(2)  $\frac{1}{5} + \frac{1}{3}$

(3)  $\frac{1}{4} + \frac{1}{3}$

(4)  $\frac{3}{5} + \frac{1}{4}$

(5)  $2 + \frac{3}{y}$

(6)  $\frac{2}{3} + \frac{3}{2}$

(7)  $\frac{5}{7} - \frac{1}{7}$

(8)  $\left(\frac{2}{3}\right)\left(\frac{3}{4}\right)$

(9)  $\frac{1}{x} + \frac{1}{y}$

(10)  $\frac{3}{8} + \frac{3}{4}$

(11)  $\frac{1}{x-1} - \frac{2}{x-1}$

(12)  $\frac{2}{5} - \frac{1}{4}$

(13)  $1 + \frac{1}{3}$

(14)  $2 + \frac{2}{5}$

(15)  $1 + \frac{1}{x}$

(16) (3)  $\left(\frac{2}{5}\right)$

(17)  $\frac{5}{3} + \frac{2}{x}$

(18)  $\frac{2}{5} + \frac{3}{7}$

(19)  $\frac{1}{2} + \frac{1}{2x}$

(20)  $\frac{2x}{x+2} + \frac{4}{x+2}$

(21)  $\frac{3}{a} - \frac{2}{b}$

(22)  $\frac{2}{3} - \frac{5}{6}$

(23)  $\left(\frac{2}{3}\right)\left(\frac{-2}{7}\right)$

(24)  $4\left(\frac{2}{x}\right)$

(25)  $\left(\frac{1}{15}\right)\left(\frac{2}{11}\right)$

(26)  $\left(\frac{2}{x}\right)\left(\frac{3}{y}\right)$

(27)  $\frac{7}{5} + \frac{1}{a}$

(28)  $x + \frac{2}{3}$

(29)  $\frac{x}{x^2-1} - \frac{1}{x-1}$

(30)  $x - \frac{2}{3}$

(31) (72)  $\left(\frac{4}{6}\right)$

(32)  $\frac{1}{4} - \frac{1}{3}$

(33)  $\frac{2}{3} - 5$

(34)  $\frac{2}{3} + \frac{3}{2x}$

(35)  $\frac{1}{2} - \frac{2}{x}$

(36)  $\left(\frac{6}{a}\right)\left(\frac{b}{3}\right)$

(37)  $-\left(\frac{1}{5}\right) - \frac{2}{3}$

(38)  $-\left(\frac{2}{3}\right) + \frac{3}{4}$

(39)  $\left(-\left(\frac{2}{3}\right)\right)\left(\frac{4}{5}\right)$

(40) (3)  $\left(\frac{2}{3}\right)$

(41)  $\frac{1}{12} + \frac{3}{8}$

(42)  $\frac{-2}{4} - \frac{3}{4}$

(43)  $-\left(\frac{2}{8}\right)\left(\frac{-5}{4}\right)$

(44)  $\frac{2}{3} - \frac{4}{5}$

(45)  $\frac{-11}{2} - \frac{2}{7}$

(46)  $\frac{2}{9} + \frac{5}{3}$

(47)  $\frac{1}{2} + \frac{3}{4}$

(48)  $\left(\frac{2}{15}\right)\left(\frac{5}{24}\right)$

(49)  $\left(\frac{18}{15}\right)\left(\frac{-3}{12}\right)$

(50)  $\frac{x}{2} - \frac{2}{y}$

(51)  $\frac{-9}{7} - \frac{-2}{3}$

(52)  $\frac{x}{y} + \frac{2}{3}$

(53)  $\frac{x}{y} + \frac{y}{x}$

(54)  $\left(\frac{x}{2}\right)\left(\frac{2y}{5}\right)$

(55)  $\frac{5}{2} + \frac{7}{2}$

(56)  $x + \frac{2}{3}$

(57) (a)  $\left(\frac{3}{4}\right)$

$$(58) -\left(\frac{1}{2}\right)\left(\frac{-4x}{y}\right)$$

$$(61) \frac{2}{x^2-4} + \frac{3}{x^2+3x+2}$$

$$(64) \frac{5}{6} + 4$$

$$(67) \frac{1}{x} - \frac{2}{5x}$$

$$(70) \frac{11}{36} - \frac{5}{24}$$

$$(73) x + \frac{1}{y}$$

$$(59) \frac{6x}{5} + \frac{3x}{2}$$

$$(62) \frac{11}{5} + \frac{5}{6}$$

$$(65) -\left(\frac{3}{8}\right) + \frac{5}{7}$$

$$(68) \frac{3}{x^2-1} + \frac{x}{x+1}$$

$$(71) x - \frac{x}{y}$$

$$(74) 3 - \frac{1}{x}$$

$$(60) \frac{3}{4} - \frac{9}{4}$$

$$(63) \frac{3}{x^2-x-2} + \frac{1}{x-2}$$

$$(66) \frac{1}{x} + \frac{1}{x^2}$$

$$(69) \frac{x-1}{x} - \frac{1}{x-1}$$

$$(72) \frac{2}{3x} - \frac{4}{3} + \frac{2}{x}$$

$$(75) \frac{2}{x} - \frac{1}{2} - \frac{1}{y}$$

Answers: (1)  $\frac{8}{15}$  (2)  $\frac{8}{15}$  (3)  $\frac{7}{12}$  (4)  $\frac{17}{20}$  (5)  $\frac{2y+3}{y}$  (6)  $\frac{13}{6}$  (7)  $\frac{4}{7}$  (8)  $\frac{1}{2}$

(9)  $\frac{y+x}{xy}$  (10)  $\frac{9}{8}$  (11)  $\frac{1}{-x+1}$  (12)  $\frac{3}{20}$  (13)  $\frac{4}{3}$  (14)  $\frac{12}{5}$  (15)  $\frac{x+1}{x}$  (16)  $\frac{6}{5}$

(17)  $\frac{5x+6}{3x}$  (18)  $\frac{29}{35}$  (19)  $\frac{x+1}{2x}$  (20) 2 (21)  $\frac{3b-2a}{ab}$  (22)  $-\frac{1}{6}$  (23)  $-\frac{4}{21}$

(24)  $\frac{8}{x}$  (25)  $\frac{2}{165}$  (26)  $\frac{6}{xy}$  (27)  $\frac{7a+5}{5a}$  (28)  $\frac{3x+2}{3}$  (29)  $-\frac{1}{(x-1)(x+1)}$

(30)  $\frac{3x-2}{3}$  (31) 48 (32)  $-\frac{1}{12}$  (33)  $-\frac{13}{3}$  (34)  $\frac{4x+9}{6x}$  (35)  $\frac{x-4}{2x}$  (36)  $\frac{2b}{a}$

(37)  $-\frac{13}{15}$  (38)  $\frac{1}{12}$  (39)  $-\frac{8}{15}$  (40) 2 (41)  $\frac{11}{24}$  (42)  $-\frac{5}{4}$  (43)  $\frac{5}{16}$  (44)  $-\frac{2}{15}$

(45)  $-\frac{81}{14}$  (46)  $\frac{17}{9}$  (47)  $\frac{5}{4}$  (48)  $\frac{1}{36}$  (49)  $-\frac{3}{10}$  (50)  $\frac{xy-4}{2y}$  (51)  $-\frac{13}{21}$

(52)  $\frac{2y+3x}{3y}$  (53)  $\frac{y^2+x^2}{xy}$  (54)  $\frac{xy}{5}$  (55) 6 (56)  $\frac{3x+2}{3}$  (57)  $\frac{3a}{4}$  (58)  $\frac{2x}{y}$

(59)  $\frac{27x}{10}$  (60)  $-\frac{3}{2}$  (61)  $\frac{5x-4}{(x-2)(x+1)(x+2)}$  (62)  $\frac{91}{30}$  (63)  $\frac{x+4}{(x-2)(x+1)}$  (64)  $\frac{29}{6}$

(65)  $\frac{19}{56}$  (66)  $\frac{x+1}{x^2}$  (67)  $\frac{3}{5x}$  (68)  $\frac{x^2-x+3}{(x-1)(x+1)}$  (69)  $\frac{x^2-3x+1}{(x-1)x}$  (70)  $\frac{7}{72}$

(71)  $\frac{xy-x}{y}$  (72)  $\frac{-4(x-2)}{3x}$  (73)  $\frac{xy+1}{y}$  (74)  $\frac{3x-1}{x}$  (75)  $\frac{-xy+4y-2x}{2xy}$