

Worksheet #4 Section 3.1 — Polynomial Addition

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Simplify each of the following.

(1) $4a - 2a$

(3) $4xy - 3xy + 5xy$

(5) $(3y) - (5y)$

(7) $-(2a) - (-3a)$

(9) $3(-2x) + (4x) - 2(8x - 1)$

(11) $(2a - b) - (5a - 2b)$

(13) $2a - 3b + 7a$

(15) $5xy - 2x + 4y - 3xy + 2xy$

(17) $8x^2y - 2xy + 4x^2y - 3yx^2$

(19) $(3a - b) + (2a) - (3b - a)$

(21) $3\sqrt{7} - 5\sqrt{7} - 9\sqrt{7}$

(23) $2x^2y - 3xy^2$

(25) $3s + 5st - 9st^2 + 3s - 5s$

(27) $2xy - 4x + (-y + x)$

(29) $9x - (2x)$

(31) $3a - (2b)$

(33) $-st + 3st - 5s + 2st$

(35) $3(2x - y) + 3(x + 2y)$

(37) $6x^2y^3 - 2x^2y^2 + 3x$

(39) $3\sqrt{x} - 2\sqrt{x} + \sqrt{x}$

(41) $(-3x) + (2x) - (-7x)$

(43) $2.3y - 5.6y$

(45) $2(3x) - 4(x) - 5(2x)$

(47) $0.05y - 0.4y$

(49) $-((2x) - (3x))$

(51) $-(3x - (2x))$

(53) $-(3y - (2x - y)) - (5x)$

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

(57) $-(x - 3) - (x + 1) - (2x - 1)$

(2) $7x - 3x$

(4) $-x^2 + 3x^2$

(6) $(3x - 4) - (5x + 3)$

(8) $6ab - 3ab + 7ab$

(10) $4x + (2x + 5x)$

(12) $(3x) + (-2x) - (4x)$

(14) $(4a + b) - (3a - 5)$

(16) $(-3x^2) - (3x^2) + 5x^2$

(18) $-(2a + 1) + (3a - 2)$

(20) $3a - 2a + 7a$

(22) $4s - (2x) + 4s - (2s)$

(24) $-(-2b) - (-2a - b)$

(26) $x^3 - 3x^2 + 2x - 6 - 4x + 1$

(28) $4x + (2x^2) - (3x - 2x^2) - 8x^2 + 7x$

(30) $(5a) - 2a$

(32) $5 - 2(x - 2) + 2x - 4$

(34) $9ab - (2a - 3b + 7ab)$

(36) $2 + 3(2x - 1) - 4 - 2(-3x + 2)$

(38) $9x - (-2x) - 7x - (4x)$

(40) $5x^{\frac{1}{3}} - 7x^{\frac{1}{3}}$

(42) $\frac{1}{2}x - \frac{3}{2}x$

(44) $(2x^2 - x + 1) - (3x^2 + x - 7) + (2x^2 + 4x - 1)$

(46) $3a - b + \frac{1}{2}a + \frac{1}{3}b$

(48) $2(2x - 2) - 3(x - 5)$

(50) $9.1a + 2.3a$

(52) $(4x - 3x) - (9x + 8x)$

(54) $-2(3s - t) + 2(s - (t))$

(56) $3 - 2(x - 1)$

(58) $5 - 2(-x - 1) + (-2x - (3x - 2)) - 7x + 1$

$$(59) 5\sqrt{x} - 4\sqrt{x}$$

$$(61) 9x^2 + 3xy - 2xy^2 - 3x^2y - 2y$$

$$(63) \frac{a}{2} - \frac{a}{3}$$

$$(65) 0.01x - 0.3x$$

$$(67) (2 - 1(x - 3)) - 4$$

$$(69) 3\sqrt{5} - 3\sqrt{2} + \sqrt{5} + 7\sqrt{2}$$

$$(71) 3(x - 2) - 2(a - 1)$$

$$(73) 3^2x - 2x$$

$$(75) -((2x - 1) - (x - 5))$$

$$(77) 2.3x - 1.2x + 5.1x$$

$$(79) -3a^2b - 3ab^2 + a^2b - 4ab$$

$$(60) (3x - 4) - 2(x - 4)$$

$$(62) 2(a^2 - a - 3) - 2(-2a^2 - 5a - 1)$$

$$(64) x - \frac{x}{2}$$

$$(66) 2x^2 - 3x^3 + 2$$

$$(68) -(-3x) - (-5x) - (8x)$$

$$(70) -(a - (-3a - 1))$$

$$(72) 3y - (2y)$$

$$(74) 3x^3 - 3x^2 - 2x - 4x^2 + x - 5$$

$$(76) 5t - 2(t - 4) + (2t - 3)$$

$$(78) (2 + 3)(x + 1)$$

$$(80) 2(3a^2 - a - 2) - 2(a^2 + a - 3)$$

Answers: (1) $2a$ (2) $4x$ (3) $6xy$ (4) $2x^2$ (5) $-2y$ (6) $-2x-7$ (7) a
 (8) $10ab$ (9) $-18x+2$ (10) $11x$ (11) $b-3a$ (12) $-3x$ (13) $-3b+9a$ (14) $b+a+5$
 (15) $4xy+4y-2x$ (16) $-x^2$ (17) $9x^2y-2xy$ (18) $a-3$ (19) $-4b+6a$ (20) $8a$
 (21) $-11\sqrt{7}$ (22) $-2x+6s$ (23) $-3xy^2+2x^2y$ (24) $3b+2a$ (25) $-9st^2+5st+s$
 (26) x^3-3x^2-2x-5 (27) $2xy-y-3x$ (28) $-4x^2+8x$ (29) $7x$ (30) $3a$
 (31) $-2b+3a$ (32) 5 (33) $4st-5s$ (34) $2ab+3b-2a$ (35) $3y+9x$ (36) $12x-9$
 (37) $6x^2y^3-2x^2y^2+3x$ (38) 0 (39) $2\sqrt{x}$ (40) $-2x^{\frac{1}{3}}$ (41) $6x$ (42) $-x$ (43) $-3.3y$
 (44) x^2+2x+7 (45) $-8x$ (46) $\frac{-2b}{3}+\frac{7a}{2}$ (47) $-0.35y$ (48) $x+11$ (49) x (50) $11.4a$
 (51) $-x$ (52) $-16x$ (53) $-4y-3x$ (54) $-4s$ (55) $-\frac{1}{6}x$ (56) $-2x+5$ (57) $-4x+3$
 (58) $26x-3$ (59) \sqrt{x} (60) $x+4$ (61) $-2xy^2-3x^2y+3xy-2y+9x^2$ (62) $6a^2+8a-4$
 (63) $\frac{a}{6}$ (64) $\frac{x}{2}$ (65) $-0.29x$ (66) $-3x^3+2x^2+2$ (67) $-x+1$ (68) 0 (69) $4\sqrt{5}+4\sqrt{2}$
 (70) $-4a-1$ (71) $3x-2a-4$ (72) y (73) $7x$ (74) $3x^3-7x^2-x-5$ (75) $-x-4$
 (76) $5t+5$ (77) $6.2x$ (78) $5x+5$ (79) $-3ab^2-2a^2b-4ab$ (80) $4a^2-4a+2$