Math 05 Practice

polynomials

Problem 1.

Simplify.

$$(10x^4y^{-1})(-13x^2y^2)$$

- A. $-3x^6y$

- B. $\dfrac{-130x^2}{y^3}$

- C. $\dfrac{-130x^8}{y^2}$

- D. $-130x^6y$

Problem 2.

Simplify.

$$12x^6\,x^{-8}\,y^6\,x^{-7}$$

- A. $\dfrac{12}{x^3}$

- B. $12x^9y^6$

- C. $\dfrac{12y^6}{x^9}$

- D. $\dfrac{-12y^6}{x^9}$

Problem 3.

Simplify Completely. $(11x^2 - 15x + 19) - (-3x^2 - 6x + 4)$

- A. $8x^2 - 9x + 15$
- B. $14x^2 - 9x + 23$
- C. $14x^2 - 9x + 15$
- D. $14x^2 + 21x + 15$

Problem 4.

Multiply. $(2x - 6)(x^2 + 2x + 2)$

- A. $2x^3 - 2x^2 - 8x - 12$
- B. $2x^3 - 2x^2 + 4x - 12$
- C. $2x^3 + 10x^2 - 8x - 12$
- D. $2x^3 + 10x^2 + 4x - 12$

Problem 5.

Simplify completely. $\dfrac{-8x^{17} + 20x^8 - 12x^5}{-4x^5}$

- A. $2x^{12} - 5x^3$
- B. $2x^{12} + 5x^3 - 3$
- C. $2x^{12} - 5x^3 + 3$
- D. $-8x^{17} + 20x^8$

Problem 1.

Simplify.

$$\frac{49x^4(y^4)^4}{7x^{-7}y^{-28}}$$

- A. $\dfrac{x^{11}}{7y^{12}}$

- B. $\dfrac{7y^{36}}{x^3}$

- C. $\dfrac{7}{x^3y^{12}}$

- D. $7x^{11}y^{44}$

Problem 2.

Simplify.

$$9x^{-5}\ x^6\ y^{11}\ x^7$$

- A. $-9x^8y^{11}$

- B. $9x^8y^{11}$

- C. $\dfrac{9y^{11}}{x^8}$

- D. $9x^{19}$

Problem 3.

Simplify Completely. $(18x^2 - 13x + 19) - (-6x^2 - 5x + 5)$

- A. $24x^2 - 8x + 14$
- B. $24x^2 + 18x + 14$
- C. $24x^2 - 8x + 24$
- D. $12x^2 - 8x + 14$

Problem 4.

Multiply. $(3x - 6)(x^2 + 3x - 2)$

- A. $3x^3 + 15x^2 - 24x + 12$
- B. $3x^3 + 3x^2 - 6x + 12$
- C. $3x^3 + 15x^2 - 6x + 12$
- D. $3x^3 + 3x^2 - 24x + 12$

Problem 5.

Simplify completely. $\dfrac{-12x^{16} - 9x^5 + 15x^3}{-3x^3}$

- A. $4x^{13} - 3x^2 + 5$
- B. $4x^{13} + 3x^2 - 5$
- C. $4x^{13} + 3x^2$
- D. $-12x^{16} - 9x^5$

Problem 1.

Simplify.

$$\frac{12x^4(y^2)^3}{3x^{-4}y^{-4}}$$

- A. $4y^9$

- B. $4y^2$

- C. $\frac{1}{4}x^8y^2$

- D. $4x^8y^{10}$

Problem 2.

Simplify.

$$2x^8 \, x^2 \, y^{10} \, x^{-1}$$

- A. $-2x^9y^{10}$

- B. $2x^{19}$

- C. $2x^9y^{10}$

- D. $\frac{2y^{10}}{x^9}$

Problem 3.

Simplify Completely. $(20x^2 - 15x + 9) - (-5x^2 - 2x + 2)$

- A. $25x^2 - 13x + 7$
- B. $25x^2 - 13x + 11$
- C. $15x^2 - 13x + 7$
- D. $25x^2 + 17x + 7$

Problem 4.

Multiply. $(6x - 6)(x^2 - 3x + 3)$

- A. $6x^3 - 24x^2 + 36x - 18$
- B. $6x^3 - 12x^2 + 36x - 18$
- C. $6x^3 - 24x^2 + 18x - 18$
- D. $6x^3 - 12x^2 + 18x - 18$

Problem 5.

Simplify completely. $\dfrac{-14x^{14} - 28x^7 + 21x^2}{-7x^2}$

- A. $2x^{12} - 4x^5 + 3$
- B. $-14x^{14} - 28x^7$
- C. $2x^{12} + 4x^5 - 3$
- D. $2x^{12} + 4x^5$

Problem 1.

Simplify.

$$\frac{20x^8(y^{-6})^3}{5x^{-5}y^{-23}}$$

- A. $4x^{13}y^5$

- B. $\dfrac{x^{13}}{4y^{41}}$

- C. $\dfrac{4x^3}{y^{41}}$

- D. $4x^3y^{20}$

Problem 2.

Simplify.

$$4x^{-8}\ x^{-5}\ y^6\ x^{-4}$$

- A. $\dfrac{4}{x^{11}}$

- B. $\dfrac{-4y^6}{x^{17}}$

- C. $4x^{17}y^6$

- D. $\dfrac{4y^6}{x^{17}}$

Problem 3.

Simplify Completely. $(10x^2 - 19x + 14) - (-6x^2 - 3x + 2)$

- A. $16x^2 - 16x + 16$
- B. $4x^2 - 16x + 12$
- C. $16x^2 - 16x + 12$
- D. $16x^2 + 22x + 12$

Problem 4.

Multiply. $(6x - 6)(x^2 + 3x + 2)$

- A. $6x^3 + 24x^2 + 12x - 12$
- B. $6x^3 + 12x^2 + 12x - 12$
- C. $6x^3 + 12x^2 - 6x - 12$
- D. $6x^3 + 24x^2 - 6x - 12$

Problem 5.

Simplify completely. $\dfrac{28x^{14} - 21x^7 - 35x^2}{-7x^2}$

- A. $-4x^{12} - 3x^5 - 5$
- B. $-4x^{12} + 3x^5 + 5$
- C. $-4x^{12} + 3x^5$
- D. $28x^{14} - 21x^7$

Problem 1.

Simplify.

$$(12xy^{-7})(8x^8y^7)$$

- A. $96x^9$

- B. $20x^9$

- C. $\dfrac{96x^8}{y^{49}}$

- D. $\dfrac{96}{x^7y^{14}}$

Problem 2.

Simplify.

$$(-5\ x^3\ y^6\ z\ )^4$$

- A. $-20x^{12}y^{24}z^4$

- B. $625x^{12}y^{24}z^4$

- C. $-20x^3y^6z$

- D. $625x^7y^{10}z^5$

Problem 3.

Simplify Completely. $\quad (20x^2 - 16x + 19) - (-9x^2 - 4x + 2)$

- A. $29x^2 + 20x + 17$
- B. $11x^2 - 12x + 17$
- C. $29x^2 - 12x + 21$
- D. $29x^2 - 12x + 17$

Problem 4.

Multiply. $\quad (2x - 2)(x^2 + 2x - 2)$

- A. $2x^3 + 2x^2 - 4x + 4$
- B. $2x^3 + 2x^2 - 8x + 4$
- C. $2x^3 + 6x^2 - 4x + 4$
- D. $2x^3 + 6x^2 - 8x + 4$

Problem 5.

Simplify completely. $\quad \dfrac{-6x^{17} + 12x^5 - 9x^2}{-3x^2}$

- A. $-6x^{17} + 12x^5$
- B. $2x^{15} + 4x^3 - 3$
- C. $2x^{15} - 4x^3$
- D. $2x^{15} - 4x^3 + 3$

Problem 1.

Simplify.

$$(3x^5y^5)(9x^2y^6)$$

- A. $27x^{10}y^{30}$

- B. $12x^7y^{11}$

- C. $\dfrac{27x^3}{y}$

- D. $27x^7y^{11}$

Problem 2.

Simplify.

$$-9x^5\,x^{-1}\,y^{10}\,x^{-6}$$

- A. $-9x^8$

- B. $\dfrac{-9y^{10}}{x^2}$

- C. $\dfrac{9y^{10}}{x^2}$

- D. $-9x^2y^{10}$

Problem 3.

Simplify Completely. $(17x^2 - 12x + 9) - (-3x^2 - 6x + 6)$

- A. $20x^2 - 6x + 15$
- B. $20x^2 - 6x + 3$
- C. $20x^2 + 18x + 3$
- D. $14x^2 - 6x + 3$

Problem 4.

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

- A. $4x^3 + 8x^2 + 8x - 8$
- B. $4x^3 + 16x^2 + 8x - 8$
- C. $4x^3 + 16x^2 - 4x - 8$
- D. $4x^3 + 8x^2 - 4x - 8$

Problem 5.

Simplify completely. $\dfrac{-20x^{16} - 25x^7 + 10x^4}{-5x^4}$

- A. $4x^{12} + 5x^3$
- B. $4x^{12} - 5x^3 + 2$
- C. $4x^{12} + 5x^3 - 2$
- D. $-20x^{16} - 25x^7$

Problem 1.

Simplify.
$$(-9x^{14}y^{-4})(12x^{-5}y^6)$$

- A. $3x^9y^2$

- B. $\dfrac{-108x^{19}}{y^{10}}$

- C. $\dfrac{-108}{x^{70}y^{24}}$

- D. $-108x^9y^2$

Problem 2.

Simplify.
$$2xx^5\ y^2\ x^4$$

- A. $\dfrac{2y^2}{x^{10}}$

- B. $2x^{10}y^2$

- C. $-2x^{10}y^2$

- D. $2x^{12}$

Problem 3.

Simplify Completely. $\quad (20x^2 - 17x + 8) - (-4x^2 - 5x + 2)$

- A. $16x^2 - 12x + 6$
- B. $24x^2 - 12x + 6$
- C. $24x^2 - 12x + 10$
- D. $24x^2 + 22x + 6$

Problem 4.

Multiply. $\quad (6x - 5)(x^2 + 2x + 3)$

- A. $6x^3 + 17x^2 + 8x - 15$
- B. $6x^3 + 7x^2 + 18x - 15$
- C. $6x^3 + 7x^2 + 8x - 15$
- D. $6x^3 + 17x^2 + 18x - 15$

Problem 5.

Simplify completely. $\quad \dfrac{-12x^{16} + 15x^9 - 9x^5}{-3x^5}$

- A. $4x^{11} - 5x^4 + 3$
- B. $-12x^{16} + 15x^9$
- C. $4x^{11} - 5x^4$
- D. $4x^{11} + 5x^4 - 3$

Problem 1.

Simplify.

$$(-13x^{12}y^{-2})(-7x^{-2}y^3)$$

- A. $\dfrac{91x^{14}}{y^5}$

- B. $\dfrac{91}{x^{24}y^6}$

- C. $91x^{10}y$

- D. $-20x^{10}y$

Problem 2.

Simplify.

$$3x^2\, y^{15}\, x^{-7}$$

- A. $3x^5y^{15}$

- B. $3x^{10}$

- C. $\dfrac{-3y^{15}}{x^5}$

- D. $\dfrac{3y^{15}}{x^5}$

Problem 3.

Simplify Completely. $(14x^2 - 18x + 15) - (-5x^2 - 4x + 2)$

- A. $9x^2 - 14x + 13$
- B. $19x^2 - 14x + 17$
- C. $19x^2 + 22x + 13$
- D. $19x^2 - 14x + 13$

Problem 4.

Multiply. $(6x - 3)(x^2 - 3x + 3)$

- A. $6x^3 - 15x^2 + 18x - 9$
- B. $6x^3 - 21x^2 + 27x - 9$
- C. $6x^3 - 21x^2 + 18x - 9$
- D. $6x^3 - 15x^2 + 27x - 9$

Problem 5.

Simplify completely. $\dfrac{-14x^{17} - 21x^8 + 28x^5}{-7x^5}$

- A. $2x^{12} - 3x^3 + 4$
- B. $2x^{12} + 3x^3$
- C. $-14x^{17} - 21x^8$
- D. $2x^{12} + 3x^3 - 4$

Problem 1.

Simplify.

$$(7x^9y^{-6})(-9x^{-1}y^{15})$$

- A. $-2x^8y^9$

- B. $-63x^8y^9$

- C. $\dfrac{-63}{x^9y^{90}}$

- D. $\dfrac{-63x^{10}}{y^{21}}$

Problem 2.

Simplify.

$$(-5\ x^6\ y^{-5}\ z^{-4}\ )^2$$

- A. $\dfrac{-10x^6}{y^5z^4}$

- B. $\dfrac{25x^{12}}{y^{10}z^8}$

- C. $\dfrac{25x^8}{y^3z^2}$

- D. $\dfrac{-10x^{12}}{y^{10}z^8}$

Problem 3.

Simplify Completely. $(12x^2 - 17x + 18) - (-3x^2 - 2x + 4)$

- A. $15x^2 + 19x + 14$
- B. $15x^2 - 15x + 22$
- C. $15x^2 - 15x + 14$
- D. $9x^2 - 15x + 14$

Problem 4.

Multiply. $(4x - 6)(x^2 - 3x - 3)$

- A. $4x^3 - 6x^2 - 12x + 18$
- B. $4x^3 - 18x^2 + 6x + 18$
- C. $4x^3 - 18x^2 - 12x + 18$
- D. $4x^3 - 6x^2 + 6x + 18$

Problem 5.

Simplify completely. $\dfrac{10x^{14} - 8x^7 - 4x^4}{-2x^4}$

- A. $-5x^{10} + 4x^3 + 2$
- B. $10x^{14} - 8x^7$
- C. $-5x^{10} - 4x^3 - 2$
- D. $-5x^{10} + 4x^3$

Problem 1.

Simplify.

$$\frac{48x^6(y^{-4})^5}{16x^5y^{-28}}$$

- A. $\dfrac{x}{3y^{48}}$

- B. $3xy^8$

- C. $\dfrac{3x^{11}}{y^{48}}$

- D. $3x^{11}y^{29}$

Problem 2.

Simplify.

$$-5x^{-2}\,x^6\,y^{13}\,x^{-6}$$

- A. $\dfrac{-5y^{13}}{x^2}$

- B. $-5x^{11}$

- C. $-5x^2y^{13}$

- D. $\dfrac{5y^{13}}{x^2}$

Problem 3.

Simplify Completely. $(15x^2 - 12x + 10) - (-7x^2 - 5x + 6)$

- A. $22x^2 - 7x + 16$
- B. $22x^2 + 17x + 4$
- C. $8x^2 - 7x + 4$
- D. $22x^2 - 7x + 4$

Problem 4.

Multiply. $(5x - 4)(x^2 - 3x - 3)$

- A. $5x^3 - 11x^2 - 15x + 12$
- B. $5x^3 - 19x^2 - 15x + 12$
- C. $5x^3 - 11x^2 - 3x + 12$
- D. $5x^3 - 19x^2 - 3x + 12$

Problem 5.

Simplify completely. $\dfrac{-4x^{16} + 8x^7 - 10x^5}{-2x^5}$

- A. $2x^{11} + 4x^2 - 5$
- B. $-4x^{16} + 8x^7$
- C. $2x^{11} - 4x^2 + 5$
- D. $2x^{11} - 4x^2$

Answers.

Version 1.
1.D   2.C   3.C   4.A   5.C

Version 2.
1.D   2.B   3.A   4.D   5.B

Version 3.
1.D   2.C   3.A   4.A   5.C

Version 4.
1.A   2.D   3.C   4.C   5.B

Version 5.
1.A   2.B   3.D   4.B   5.D

Version 6.
1.D   2.B   3.B   4.D   5.C

Version 7.
1.D   2.B   3.B   4.C   5.A

Version 8.
1.C   2.D   3.D   4.B   5.D

Version 9.
1.B   2.B   3.C   4.B   5.A

Version 10.
1.B   2.A   3.D   4.D   5.C