

Math 05 Practice

factoring

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Version 1

Problem 1.

Factor completely.

$$144x^3 - 100xy^2$$

- A. $4x(6x - 5y)(6x + 5y)$
 - B. $4x(36x^2 - 25y^2)$
 - C. $4(36x^3 - 25xy^2)$
 - D. $4x(6x - 5y)^2$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$2x^2 + 15x - 8$$

- A. $2x + 8$
 - B. $2x + 1$
 - C. $x - 8$
 - D. $x + 8$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$10cw + 5cz - 6dw - 3dz$$

- A. $5w - 3z$
 - B. $5c + 3d$
 - C. $2w + z$
 - D. $2w - z$
-

Problem 4.

Find all solutions to the equation.

$$4x^2 + 12x = 0$$

- A. *Only* $x = -3$
- B. *Only* $x = 3$
- C. $x = 0$ *or* $x = 3$
- D. $x = 0$ *or* $x = -3$

Version 2

Problem 1.

Factor completely.

$$24x^2y - 6y^3$$

- A. $6y(2x - y)^2$
 - B. $6(4x^2y - y^3)$
 - C. $6y(2x - y)(2x + y)$
 - D. $6y(4x^2 - y^2)$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$2x^2 + 3x - 5$$

- A. $2x - 5$
 - B. $x + 1$
 - C. $x - 1$
 - D. $2x - 1$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$4ax - 28ay + 7bx - 49by$$

- A. $4x + 7y$
 - B. $4a - 7b$
 - C. $4a + 7b$
 - D. $x + 7y$
-

Problem 4.

Find all solutions to the equation.

$$x^2 = -6x - 5$$

- A. *Only* $x = -5$
- B. *Only* $x = 1$
- C. $x = -5$ *or* $x = -1$
- D. $x = -3$ *or* $x = 1$

Version 3

Problem 1.

Factor completely.

$$96x^2y - 54y^3$$

- A. $6(16x^2y - 9y^3)$
 - B. $6y(4x - 3y)^2$
 - C. $6y(4x - 3y)(4x + 3y)$
 - D. $6y(16x^2 - 9y^2)$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$3x^2 + 34x + 40$$

- A. $x - 10$
 - B. $3x - 4$
 - C. $3x + 10$
 - D. $x + 10$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$2ax - 5ay - 12bx + 30by$$

- A. $x - 6y$
 - B. $a - 6b$
 - C. $2x + 5y$
 - D. $a + 6b$
-

Problem 4.

Find all solutions to the equation.

$$x^2 - x = 2$$

- A. $x = 2$ or $x = -1$
- B. *Only* $x = -3$
- C. *Only* $x = 2$
- D. $x = 3$ or $x = -3$

Version 4

Problem 1.

Factor completely.

$$144x^2y - 4y^3$$

- A. $4y(36x^2 - y^2)$
 - B. $4(36x^2y - y^3)$
 - C. $4y(6x - y)(6x + y)$
 - D. $4y(6x - y)^2$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$3x^2 + 29x + 66$$

- A. $3x + 11$
 - B. $x + 11$
 - C. $3x - 11$
 - D. $x - 6$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$5cw + 10cz - 2dw - 4dz$$

- A. $5w - 2z$
 - B. $5c - 2d$
 - C. $w - 2z$
 - D. $5c + 2d$
-

Problem 4.

Find all solutions to the equation.

$$x^2 + 5 = 6x$$

- A. *Only* $x = 6$
- B. $x = 3$ *or* $x = 6$
- C. *Only* $x = 1$
- D. $x = 1$ *or* $x = 5$

Version 5

Problem 1.

Factor completely.

$$48x^2y - 75y^3$$

- A. $3y(16x^2 - 25y^2)$
 - B. $3(16x^2y - 25y^3)$
 - C. $3y(4x - 5y)(4x + 5y)$
 - D. $3y(4x - 5y)^2$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$2x^2 + 7x - 4$$

- A. $x + 4$
 - B. $2x + 4$
 - C. $2x + 1$
 - D. $x - 4$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$3ac + 2ad - 6bc - 4bd$$

- A. $3c + 2d$
 - B. $a + 2b$
 - C. $3c - 2d$
 - D. $c - 2d$
-

Problem 4.

Find all solutions to the equation.

$$x^2 - 4x = -4$$

- A. *Only* $x = 2$
- B. $x = 4$ *or* $x = 1$
- C. $x = 0$ *or* $x = 2$
- D. *Only* $x = 1$

Version 6

Problem 1.

Factor completely.

$$54x^3 - 96xy^2$$

- A. $6(9x^3 - 16xy^2)$
 - B. $6x(3x - 4y)(3x + 4y)$
 - C. $6x(3x - 4y)^2$
 - D. $6x(9x^2 - 16y^2)$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$6x^2 + 25x - 44$$

- A. $3x + 11$
 - B. $2x + 11$
 - C. $2x - 11$
 - D. $3x + 4$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$15cx - 20cy + 36dx - 48dy$$

- A. $3x + 4y$
 - B. $3x - 4y$
 - C. $5x + 12y$
 - D. $5c - 12d$
-

Problem 4.

Find all solutions to the equation.

$$6x^2 = 12x$$

- A. *Only* $x = 2$
- B. *Only* $x = -2$
- C. $x = 0$ *or* $x = 2$
- D. $x = 0$ *or* $x = -2$

Version 7

Problem 1.

Factor completely.

$$4x^2y - 36y^3$$

- A. $4y(x - 3y)(x + 3y)$
 - B. $4y(x - 3y)^2$
 - C. $4(x^2y - 9y^3)$
 - D. $4y(x^2 - 9y^2)$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$6x^2 + 5x - 21$$

- A. $2x + 7$
 - B. $3x + 7$
 - C. $3x - 7$
 - D. $2x + 3$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$4ax - 16ay + 11bx - 44by$$

- A. $x + 4y$
 - B. $4x + 11y$
 - C. $x - 4y$
 - D. $4a - 11b$
-

Problem 4.

Find all solutions to the equation.

$$6x^2 - 54x = 0$$

- A. *Only* $x = 9$
- B. *Only* $x = -9$
- C. $x = 0$ *or* $x = 9$
- D. $x = 0$ *or* $x = -9$

Version 8

Problem 1.

Factor completely.

$$150x^3 - 96xy^2$$

- A. $6(25x^3 - 16xy^2)$
 - B. $6x(5x - 4y)(5x + 4y)$
 - C. $6x(25x^2 - 16y^2)$
 - D. $6x(5x - 4y)^2$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$3x^2 + 31x + 56$$

- A. $3x + 8$
 - B. $x - 8$
 - C. $x + 8$
 - D. $3x - 7$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$15cw - 21cz + 5dw - 7dz$$

- A. $3c + d$
 - B. $5w + 7z$
 - C. $3c - d$
 - D. $3w + z$
-

Problem 4.

Find all solutions to the equation.

$$x^2 + 5x + 4 = 0$$

- A. *Only* $x = -1$
- B. *Only* $x = -5$
- C. $x = -5$ or $x = 0$
- D. $x = -4$ or $x = -1$

Version 9

Problem 1.

Factor completely.

$$4x^3 - 144xy^2$$

- A. $4x(x^2 - 36y^2)$
 - B. $4x(x - 6y)^2$
 - C. $4x(x - 6y)(x + 6y)$
 - D. $4(x^3 - 36xy^2)$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$6x^2 - 25x + 14$$

- A. $3x - 2$
 - B. $2x + 7$
 - C. $3x + 2$
 - D. $2x - 2$
-

Problem 3.

Which of the following is a factor of the polynomial?

$$5ax - 6ay + 40bx - 48by$$

- A. $x + 8y$
 - B. $5x + 6y$
 - C. $a + 8b$
 - D. $a - 8b$
-

Problem 4.

Find all solutions to the equation.

$$x^2 - 5 = 4x$$

- A. $x = 5$ or $x = -1$
- B. *Only* $x = -3$
- C. *Only* $x = -1$
- D. $x = 3$ or $x = -3$

Version 10

Problem 1.

Factor completely.

$$45x^2y - 80y^3$$

- A. $5y(3x - 4y)(3x + 4y)$
 - B. $5(9x^2y - 16y^3)$
 - C. $5y(3x - 4y)^2$
 - D. $5y(9x^2 - 16y^2)$
-

Problem 2.

Which of the following is a factor of the polynomial?

$$3x^2 - 16x - 12$$

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

Problem 3.

Which of the following is a factor of the polynomial?

$$4ac - 24ad - bc + 6bd$$

- A. $4a + b$
 - B. $c - 6d$
 - C. $4c - d$
 - D. $c + 6d$
-

Problem 4.

Find all solutions to the equation.

$$-4x^2 - 24x = 0$$

- A. *Only* $x = -6$
- B. $x = 0$ *or* $x = -6$
- C. *Only* $x = 6$
- D. $x = 0$ *or* $x = 6$

nswers.

Version 1.

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

Version 2.

1.C 2.C 3.C 4.C

Version 3.

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

Version 4.

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

Version 5.

1.C 2.A 3.A 4.A

Version 6.

1.B 2.B 3.B 4.C

Version 7.

1.A 2.B 3.C 4.C

Version 8.

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

Version 9.

1.C 2.A 3.C 4.A

Version 10.

1.A 2.A 3.B 4.B