

Write the slope-intercept form of the equation for the line passing through the given pair of points.

1) (-4, 0) and (3, -8)

A) $y = \frac{4}{11}x - \frac{76}{11}$

B) $y = \frac{8}{7}x - \frac{32}{7}$

C) $y = -\frac{4}{11}x - \frac{76}{11}$

D) $y = -\frac{8}{7}x - \frac{32}{7}$

1) _____

Solve the formula for the specified variable.

2) $A = P(1 + nr)$ for n

A) $n = \frac{Pr}{A - P}$

B) $n = \frac{A - P}{Pr}$

C) $n = \frac{A}{r}$

D) $n = \frac{P - A}{Pr}$

2) _____

Solve the equation.

3) $(y - 9) - (y + 4) = 6y$

A) $\left\{-\frac{13}{9}\right\}$

B) $\left\{-\frac{13}{7}\right\}$

C) $\left\{-\frac{13}{6}\right\}$

D) $\left\{-\frac{1}{3}\right\}$

3) _____

4) $-2x + 2(2x - 2) = 3 - 5x$

A) $\left\{\frac{1}{3}\right\}$

B) $\{1\}$

C) $\left\{-\frac{1}{7}\right\}$

D) $\{-1\}$

4) _____

Solve by the substitution method.

5) $9x + 9y = -36$

$-7x - 3y = 12$

A) $\{(0, -4)\}$

B) $\{(0, -3)\}$

C) $\{(-1, -3)\}$

D) \emptyset

5) _____

6) $x + y = -7$

$x + y = -3$

A) $\{(x, y) \mid x + y = -3\}$

C) $\{(0, -10)\}$

B) \emptyset

D) $\{(-7, -3)\}$

6) _____

Solve the system by the elimination method.

7) $x + 7y = -21$

$2x + 7y = -28$

A) \emptyset

B) $\{(-6, -7)\}$

C) $\{(-7, -2)\}$

D) $\{(7, -3)\}$

7) _____

8) $-5x - 55 = -6y$

$-2x + 3y = 25$

A) $\{(-5, 5)\}$

B) \emptyset

C) $\{(-6, 6)\}$

D) $\{(-5, 6)\}$

8) _____

9) $2x + 6y = 0$

$-12x - 36y = -0$

A) $\{(3, -5)\}$

C) $\{(x, y) \mid 2x + 6y = 0\}$

B) $\{(2, 3)\}$

D) \emptyset

9) _____

Solve the problem.

10) Gloria collected 19 fantail and comet goldfish. There were 15 fewer fantails than comets. How many comets did Gloria have?

A) 2 comets

B) 16 comets

C) 4 comets

D) 17 comets

10) _____

- 11) A biologist collected 326 fern and moss samples. There were 70 fewer ferns than moss samples. How many fern samples did the biologist collect? 11) _____
- A) 198 fern samples B) 134 fern samples
C) 128 fern samples D) 256 fern samples

Complete the factoring.

- 12) $7x^2y^4 + 42x^2y^3 = 7x^2y^3(\quad)$ 12) _____
- A) $y + 6$ B) $7y + 6x$ C) $x^2y + 6$ D) $y + 6x^2$

Factor out the greatest common factor.

- 13) $12m^8 - 42m^6 + 12m^4$ 13) _____
- A) no common factor (except 1) B) $6(2m^8 - 7m^6 + 2m^4)$
C) $m^4(12m^4 - 42m^2 + 12)$ D) $6m^4(2m^4 - 7m^2 + 2)$

- 14) $12m^2 - 13r^3$ 14) _____
- A) $2(6m^2 + 6r^3)$ B) $3(4m^2 - 4r^3)$
C) $m^2(12 - 13m)$ D) no common factor (except 1)

Factor by grouping.

- 15) $15x^2 - 20x - 9x + 12$ 15) _____
- A) $(15x - 3)(x - 4)$ B) $(15x + 3)(x + 4)$ C) $(5x + 3)(3x + 4)$ D) $(5x - 3)(3x - 4)$

- 16) $42 - 6x - 7p + xp$ 16) _____
- A) $(7 - x)(6 + p)$ B) $(7 - x)(6 - p)$ C) $(7 + x)(6 - p)$ D) $(7 + x)(6 + p)$

Factor completely.

- 17) $9y^4 - 49$ 17) _____
- A) $(3y^2 + 7)^2$ B) Prime
C) $(3y^2 + 7)(3y^2 - 7)$ D) $(3y^2 - 7)^2$

Solve the equation.

- 18) $\left(x + \frac{1}{7}\right)\left(x - \frac{4}{5}\right) = 0$ 18) _____
- A) $\left\{7, \frac{5}{4}\right\}$ B) $\{6, 1\}$ C) $\left\{-\frac{1}{7}, \frac{4}{5}\right\}$ D) $\left\{\frac{1}{7}, -\frac{4}{5}\right\}$

- 19) $(9y + 14)(2y + 13) = 0$ 19) _____
- A) $\left\{-\frac{9}{5}, -\frac{2}{13}\right\}$ B) $\left\{-\frac{14}{9}, -\frac{13}{2}\right\}$ C) $\left\{\frac{14}{9}, \frac{13}{2}\right\}$ D) $\{5, 11\}$

- 20) $x^2 - x = 20$ 20) _____
- A) $\{4, 5\}$ B) $\{-4, 5\}$ C) $\{1, 20\}$ D) $\{-4, -5\}$

- 21) $x^2 + 2x - 120 = 0$ 21) _____
- A) $\{12, 10\}$ B) $\{-12, 10\}$ C) $\{-12, 1\}$ D) $\{12, -10\}$

Simplify the complex fraction.

$$22) \frac{\frac{2m^8n^3}{7m}}{\frac{6m^5n^9}{9n^3}} \quad 22) \underline{\hspace{2cm}}$$

A) $\frac{3m^3}{7n^9}$

B) $\frac{3m^2}{7n^3}$

C) $\frac{3m^2}{7n^4}$

D) $\frac{3m^3}{7n^4}$

$$23) \frac{4 + \frac{2}{x}}{\frac{x}{3} + \frac{1}{6}} \quad 23) \underline{\hspace{2cm}}$$

A) $\frac{12}{x}$

B) 1

C) $\frac{x}{12}$

D) 12

Express in simplified form. Assume that all variables represent positive real numbers.

$$24) -\sqrt{162k^7q^8} \quad 24) \underline{\hspace{2cm}}$$

A) $9k^7q^8\sqrt{2k}$

B) $9q^4\sqrt{2k^7}$

C) $-9k^3q^4\sqrt{2}$

D) $-9k^3q^4\sqrt{2k}$

Solve the equation.

$$25) \sqrt{x+6} + \sqrt{2-x} = 4 \quad 25) \underline{\hspace{2cm}}$$

A) {2, -2}

B) $\{\sqrt{31}, -2\}$

C) {-2}

D) {0}

Multiply.

$$26) (6 + 2i)(8 - 9i) \quad 26) \underline{\hspace{2cm}}$$

A) $66 + 38i$

B) $66 - 38i$

C) $-18i^2 - 38i + 48$

D) $30 + 70i$

Write the quotient in the form $a + bi$.

$$27) \frac{1 - 7i}{5 - 3i} \quad 27) \underline{\hspace{2cm}}$$

A) $\frac{13}{17} - \frac{16}{17}i$

B) $\frac{15}{17} - \frac{14}{17}i$

C) $\frac{14}{17} - \frac{15}{17}i$

D) $\frac{16}{17} - \frac{13}{17}i$

Solve the equation by completing the square.

$$28) 9x^2 + 3x - 6 = 0 \quad 28) \underline{\hspace{2cm}}$$

A) $\left\{\frac{3}{2}, 0\right\}$

B) $\left\{\frac{3}{2}, -1\right\}$

C) $\left\{\frac{3}{2}, 1\right\}$

D) $\left\{\frac{2}{3}, -1\right\}$

$$29) 4r^2 + 24r = -14 \quad 29) \underline{\hspace{2cm}}$$

A) $\left\{\frac{-24 + \sqrt{22}}{2}, \frac{-24 - \sqrt{22}}{2}\right\}$

B) $\left\{\frac{-6 + \sqrt{22}}{2}, \frac{-6 - \sqrt{22}}{2}\right\}$

C) $\left\{\frac{-6 + \sqrt{2}}{2}, \frac{-6 - \sqrt{2}}{2}\right\}$

D) $\left\{\frac{-6 + \sqrt{22}}{8}, \frac{-6 - \sqrt{22}}{8}\right\}$

Use the quadratic formula to solve the given equation.

30) $x^2 + x + 1 = 0$

A) $\left\{ \frac{-1 + i\sqrt{3}}{2}, \frac{-1 - i\sqrt{3}}{2} \right\}$

C) $\frac{1 \pm \sqrt{3}}{2}$

B) $\frac{-1 \pm \sqrt{3}}{2}$

D) $\left\{ \frac{1 + i\sqrt{3}}{2}, \frac{1 - i\sqrt{3}}{2} \right\}$

30) _____

Answer Key

Testname: FINALREVIEW

- 1) D
- 2) B
- 3) C
- 4) B
- 5) A
- 6) B
- 7) C
- 8) A
- 9) C
- 10) D
- 11) C
- 12) A
- 13) D
- 14) D
- 15) D
- 16) B
- 17) C
- 18) C
- 19) B
- 20) B
- 21) B
- 22) B
- 23) A
- 24) D
- 25) C
- 26) B
- 27) A
- 28) D
- 29) B
- 30) A