

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Use the product rule to simplify the expression. Write the answer with only positive exponents.

1) $10^6 \cdot 10^4 \cdot 10^{-4}$

A) 10^{96}

B) 10^6

C) 10^8

D) $\frac{1}{10^{96}}$

1) _____

2) $3^{-10} \cdot 3^5 \cdot 3^{-1}$

A) 3^6

B) $\frac{1}{3^6}$

C) 3^8

D) $\frac{1}{3^5}$

2) _____

Use the quotient rule to simplify the expression. Write the answer with only positive exponents.

3) $\frac{3^{-5}}{3^{-19}}$

A) 3^{14}

B) -3^{14}

C) $\frac{1}{3^{14}}$

D) $\frac{1}{3^{24}}$

3) _____

4) $\frac{10^5}{10^{-9}}$

A) $\frac{1}{10^4}$

B) 10^4

C) $\frac{1}{10^{14}}$

D) 10^{14}

4) _____

5) $\frac{10^{-6}}{10^{13}}$

A) 10^{19}

B) $\frac{1}{10^{78}}$

C) $\frac{1}{10^7}$

D) $\frac{1}{10^{19}}$

5) _____

Use the power rule for exponents to simplify the expression. Write the answer in exponential form.

6) $(-2^4)^3$

A) -6^4

B) $(-2)^7$

C) $(-2)^{12}$

D) 12^4

6) _____

Use the product, quotient, and power rules to simplify the expression. Write the answer with only positive exponents.

7) $\frac{10^{-5} \cdot 10^3}{10^2 \cdot 10^{-7}}$

A) $\frac{1}{10^3}$

B) 10^3

C) 10^7

D) $\frac{1}{10^7}$

7) _____

Perform the indicated operation.

8) $(-12a^5 - 3a^3) - (7a^5 - 17a^3)$

A) $-5a^5 - 20a^3$

B) $-19a^5 - 20a^3$

C) $-19a^5 + 14a^3$

D) $-5a^8$

8) _____

9) $(3 + 4n^6 + 5n^5) + (5n^6 + 4n^5 + 3)$

A) $24n^{11}$

B) $8n^6 + 8n^5 + 8$

C) $9 + 9n^6 + 6n^5$

D) $9n^6 + 9n^5 + 6$

9) _____

10) $(3n^5 + 15n^4 + 6) - (-14n^4 + 9n^5 - 13)$

A) $-6n^5 + 29n^4 - 7$

B) $-6n^5 + 29n^4 + 19$

C) $-6n^5 + 24n^4 - 7$

D) $42n^9$

10) _____

Find the product.

11) $(-5x + 1)(x - 8)$

A) $-5x^2 + 41x + 41$

B) $-5x^2 + 41x - 8$

C) $-5x^2 + 39x - 8$

D) $-5x^2 - 8x + 41$

11) _____

12) $(3x - 1)(3x + 6)$

A) $6x^2 + 15x + 15$

B) $9x^2 + 15x + 15$

C) $9x^2 + 15x - 6$

D) $6x^2 + 15x - 6$

12) _____

13) $(8x + 5y)^2$

A) $64x^2 + 80xy + 25y^2$

B) $8x^2 + 80xy + 25y^2$

C) $8x^2 + 25y^2$

D) $64x^2 + 25y^2$

13) _____

Factor the trinomial completely.

14) $15z^2 - 8z - 16$

A) $(15z - 4)(z - 16)$

B) $(3z + 4)(5z - 4)$

C) $(3z - 4)(5z + 4)$

D) $(15z - 4)(z + 4)$

14) _____

15) $2x^2 - 12x + 16$

A) $2(x - 8)(x + 1)$

B) $(x - 2)(2x - 8)$

C) $(2x - 4)(x - 4)$

D) $2(x - 2)(x - 4)$

15) _____

16) $8y^2 + 36y - 20$

A) $(8y - 4)(y + 5)$

B) $4(2y - 1)(y + 5)$

C) $4(2y + 1)(y - 5)$

D) $(2y - 1)(4y + 20)$

16) _____

Factor completely.

17) $36k^2 - 121m^2$

A) $(6k + 11m)^2$

B) $(36k + m)(k - 121m)$

C) $(6k + 11m)(6k - 11m)$

D) $(6k - 11m)^2$

17) _____

18) $49y^4 - 16$

A) $(49y^2 + 1)(y^2 - 16)$

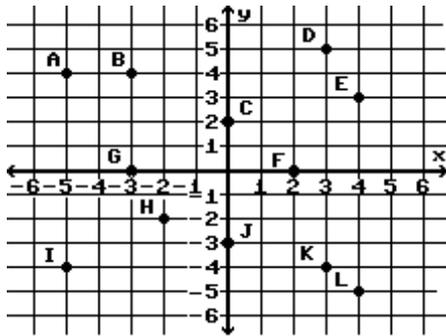
B) $(7y^2 + 4)(7y^2 - 4)$

C) $(7y^2 + 4)^2$

D) $(7y^2 - 4)^2$

18) _____

Locate the point on the rectangular coordinate system.



19) (0, 2)

A) B

B) F

C) C

D) K

19) _____

20) (3, 5)

A) K

B) L

C) I

D) D

20) _____

21) (4, 3)

A) D

B) C

C) E

D) K

21) _____

22) (0, -3)

A) J

B) C

C) G

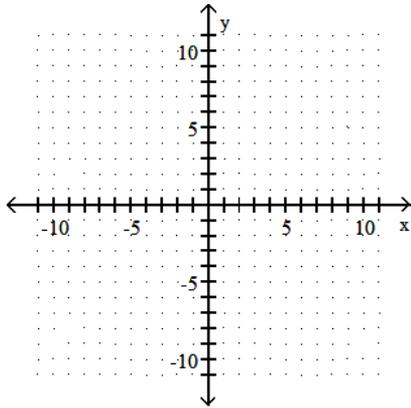
D) I

22) _____

Find the y - and x -intercepts for the equation. Then graph the equation.

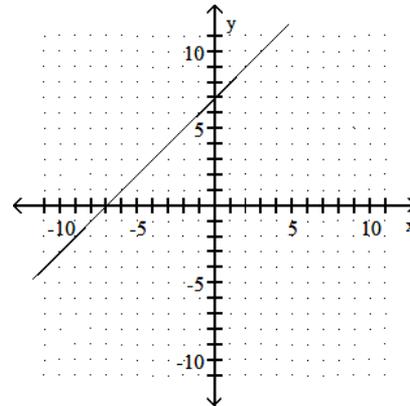
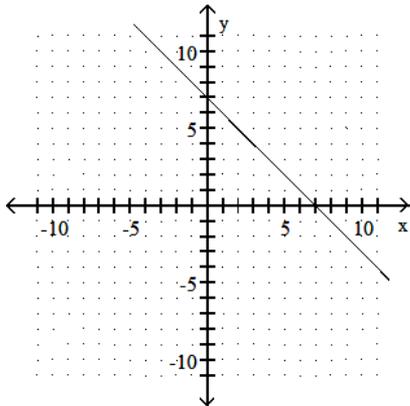
23) $x = -7 - y$

23) _____

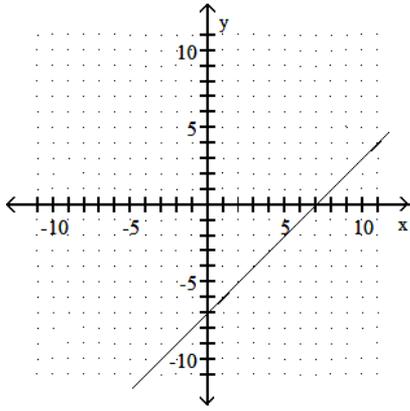


A) (0, 7), (7, 0)

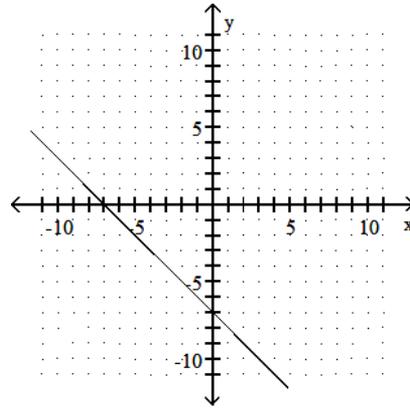
B) (0, 7), (-7, 0)



C) $(0, -7), (7, 0)$



D) $(0, -7), (-7, 0)$



Find the slope of the line through the points.

24) $(3, -7)$ and $(3, -6)$

A) 0

B) Undefined

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

D) $-\frac{1}{6}$

24) _____

25) $(16, -9)$ and $(15, 11)$

A) $\frac{2}{31}$

B) 20

C) -20

D) $-\frac{1}{20}$

25) _____