

Name _____

MULTIPLE CHOICE. Choose the one alternative that best answers the question.

Simplify the expression.

1) $35 - 3 \cdot 4 + 5$

1) _____

A) 288

B) 28

C) 8

D) 133

2) Use the order of operations to simplify the expression.

2) _____

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

A) -99

B) 153

C) 72

D) 45

Evaluate the expression for the given substitution.

3) $\frac{2m - 9n}{m + n}$ when $m = 5$ and $n = -1$.

3) _____

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

B) 11

C) -7

D) $\frac{19}{4}$

Rewrite each expression using the distributive property. Simplify if possible.

4) $12(5y - 4) - 9y$

4) _____

A) $47y$

B) $-48y - 48$

C) $51y - 4$

D) $51y - 48$

Translate the phrase into an algebraic expression.

5) 24 less than twice a number. Let x represent the unknown quantity.

5) _____

A) $2x - 24$

B) $2(x - 24)$

C) $24 - 2x$

D) $2(24 - x)$

Evaluate.

6) $(-4)^2$

6) _____

A) 8

B) -16

C) 16

D) -8

Simplify using the rules of exponents.

7) $(2p^8)^3$

7) _____

A) $2p^{24}$

B) $8p^{24}$

C) $2p^{11}$

D) $6p^8$

Multiply.

8) $(-6x^6y^3)(12x^2y^6)$

8) _____

A) $-72x^8y^9$

B) $6x^8y^9$

C) $-72x^{12}y^{18}$

D) $6x^{12}y^{18}$

Evaluate.

9) $\left(\frac{7}{2}\right)^{-3}$

9) _____

A) $-\frac{343}{8}$

B) $\frac{343}{8}$

C) $\frac{8}{343}$

D) $-\frac{8}{343}$

Rewrite with only positive exponents. Assume the variables do not equal zero.

10) $\frac{p^{-9}}{q^{-12}}$

10) _____

A) $\frac{1}{p^9q^{12}}$

B) p^9q^{12}

C) $(pq)^3$

D) $\frac{q^{12}}{p^9}$

11) $\frac{5t^2u^{-4}}{3v^{-9}w^6}$

11) _____

A) $\frac{3t^2u^4}{5v^9w^6}$

B) $\frac{5t^2v^9}{3u^4w^6}$

C) $\frac{15t^2v^9}{u^4w^6}$

D) $15t^2u^4v^9w^6$

Simplify the expression. Assume the variable(s) do not equal zero. Write your answer with positive exponents only.

12) $\frac{14x^6y^5}{35x^8y^8}$

12) _____

A) $\frac{5}{2}x^2y^3$

B) $\frac{14}{35x^2y^3}$

C) $\frac{5}{2x^2y^3}$

D) $\frac{2}{5x^2y^3}$

13) $\left(-\frac{12x^2y^{-4}}{6x^{-3}y^3}\right)^{-3}$

13) _____

A) $\frac{6x^5}{y^7}$

B) $\frac{6y^{21}}{x^{15}}$

C) $-\frac{x^3}{8y^3}$

D) $-\frac{y^{21}}{8x^{15}}$

Find the root, if possible.

14) $\sqrt{-121}$

14) _____

A) Not real

B) $\frac{1}{11}$

C) -11

D) 11

Simplify the radical expression.

15) $\sqrt[16]{a^{16}}$

15) _____

A) $16a$

B) $|a|$

C) a

D) $\pm a$

Solve the equation using the multiplication or division property of equality.

16) $\frac{2}{3}t = -\frac{1}{5}$

16) _____

A) $t = -\frac{2}{15}$

B) $t = -\frac{3}{10}$

C) $t = -\frac{13}{15}$

D) $t = \frac{3}{10}$

Solve the equation.

17) $9x - 8x + 7 = 8 - 3$

17) _____

A) $\frac{5}{8}$

B) 5

C) $-\frac{1}{4}$

D) -2

18) $5n - 8 = 11n + 5$

18) _____

A) $n = \frac{13}{16}$

B) $n = -\frac{1}{2}$

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

D) $n = \frac{13}{6}$

19) $-0.8y + 1.3 = 2.5 - 0.2y$

19) _____

A) $y = 0$

B) $y = -0.2$

C) $y = -2$

D) $y = -4$

20) $\frac{1}{2}(2n - 5) + \frac{4}{3} = \frac{5n}{6} - \frac{3}{2}$ 20) _____

A) $n = -\frac{11}{6}$

B) $n = \frac{5}{3}$

C) $n = -2$

D) $n = 13$

Write an algebraic equation to represent the English sentence. (Let x represent the unknown number.)

Then solve the equation.

21) The sum of twenty and a number is negative seven. 21) _____

A) $20 - x = -7; x = 27$

B) $x + 20 = -7; x = -27$

C) $20 + x = 7; x = 13$

D) $20x = 7; x = -7/20$

Answer the question.

22) Marcus made \$27 more than three times Joel's weekly salary. If x represents Joel's weekly salary, write an expression for Marcus' weekly salary. 22) _____

A) $27x + 3$

B) $27(3 + x)$

C) $3x + 27$

D) $3(x + 27)$

23) The sum of two consecutive even integers is 142 Find the least of the two integers. 23) _____

A) 68

B) 72

C) 70

D) 71

Solve the problem.

24) Find the sale price on a cell phone that regularly sells for \$50.00 which is marked down 20%. 24) _____

A) \$40.00

B) \$35.00

C) \$30.00

D) \$41.67

25) An electronics store reduces the price of a lap-top computer by 20% to \$760.00. Find the original price.

25) _____

A) \$608.00

B) \$950.00

C) \$633.33

D) \$912.00

Solve the inequality. Graph the solution set and write the solution set in interval notation.

26) $-44m + 51 > 15$

26) _____



A) $\left[-\infty, -\frac{3}{2}\right]$

B) $\left[\frac{9}{11}, \infty\right)$

C) $\left[-\frac{3}{2}, \infty\right)$

D) $\left[-\infty, \frac{9}{11}\right)$

Solve the inequality. Write the solution set in interval notation.

27) $2 + 8z < 7z + 8$

27) _____

A) $(-\infty, 6)$

B) $(6, \infty)$

C) $(-\infty, 6]$

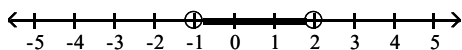
D) $(-\infty, 10)$

Graph the inequality.

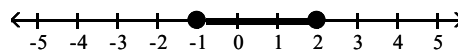
28) $-1 < y < 2$

28) _____

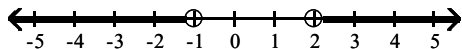
A)



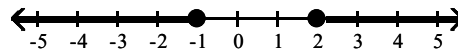
B)



C)



D)



Solve the inequality. Graph the solution set and write the solution set in interval notation.

29) $-41 \leq 7p - 6 \leq 64$

29) _____



A) $\left[-\frac{47}{7}, \frac{58}{7}\right]$

B) $(-\infty, -10] \cup [5, \infty)$

C) $[-5, 10]$

D) $\left(-\infty, -\frac{47}{7}\right] \cup \left[\frac{58}{7}, \infty\right)$

Solve the proportion.

30) $\frac{8}{z+3} = \frac{-3}{5z}$

30) _____

A) $z = -\frac{9}{43}$

B) $z = \frac{23}{3}$

C) $z = 0, z = -3$

D) $z = -8, z = 3$

31) $\frac{9}{8} = \frac{144}{x}$

31) _____

A) $x = 1152$

B) $x = 128$

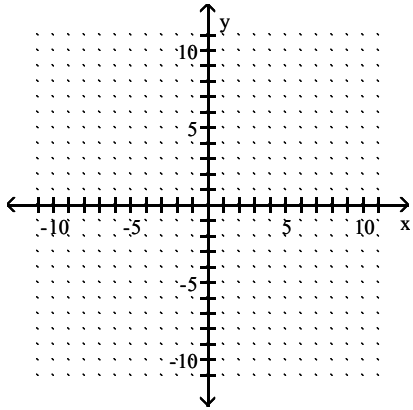
C) $x = \frac{1}{16}$

D) $x = 64$

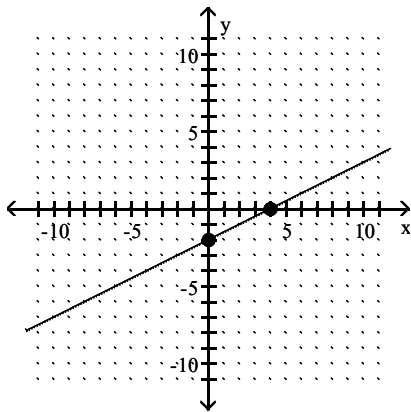
Graph the linear equation by finding and plotting its intercepts.

32) $-6x - 12y = 24$

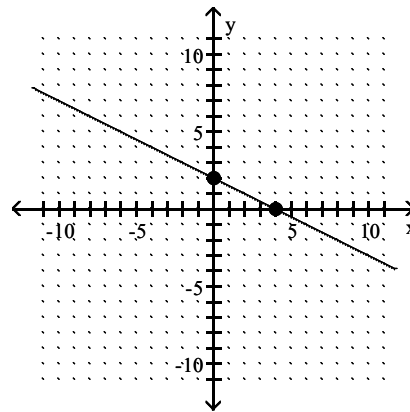
32) _____



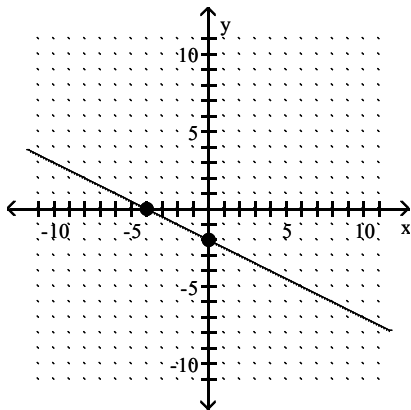
A)



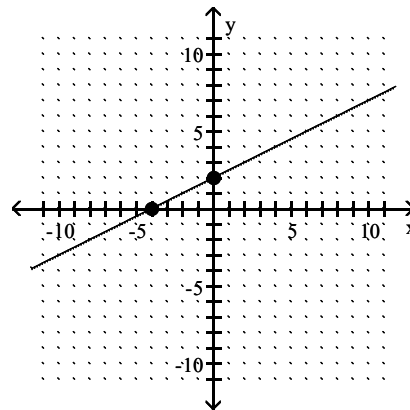
B)



C)



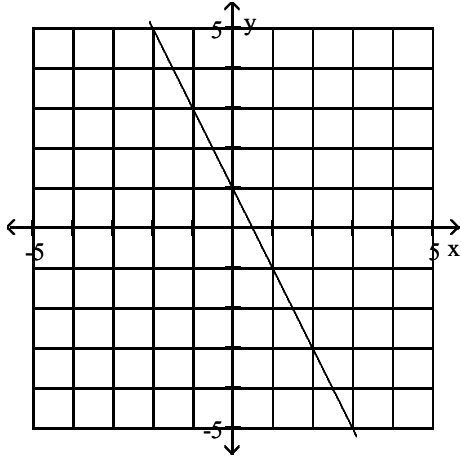
D)



Determine the slope by using the slope formula and any two points on the line.

33)

33) _____



A) $m = 1$

B) $m = -1$

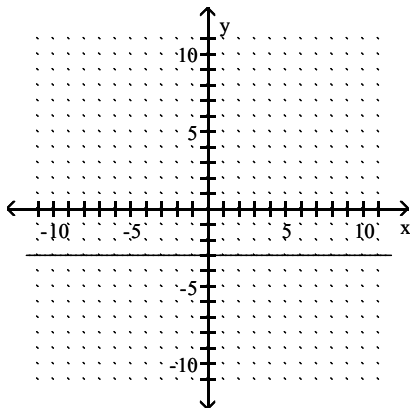
C) $m = 2$

D) $m = -2$

Find the slope of the line if it exists.

34)

34) _____



A) 2

B) -3

C) 0

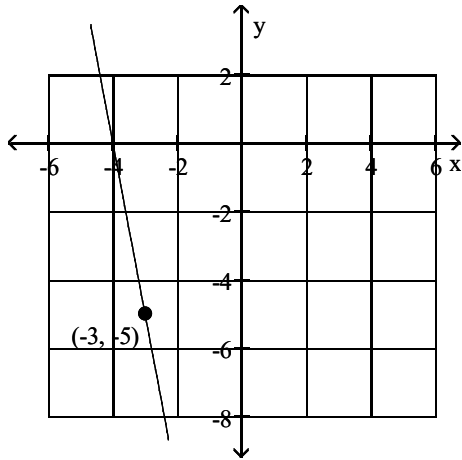
D) undefined slope

Graph the line containing the given point and with the given slope.

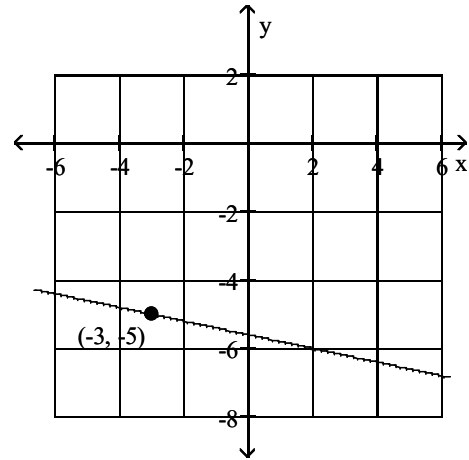
35) $(-3, -5)$; $m = 5$

35) _____

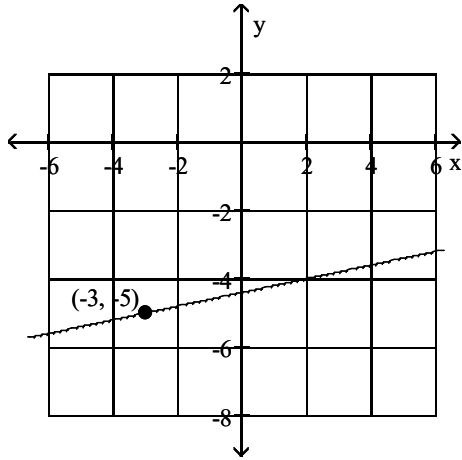
A)



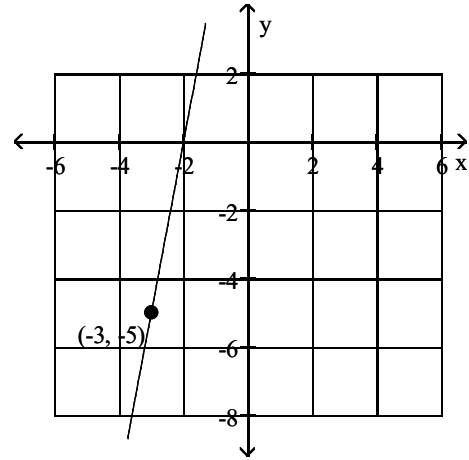
B)



C)



D)

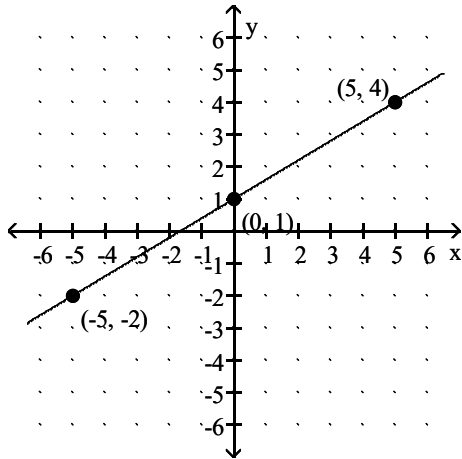


Put the equation in slope-intercept form and graph.

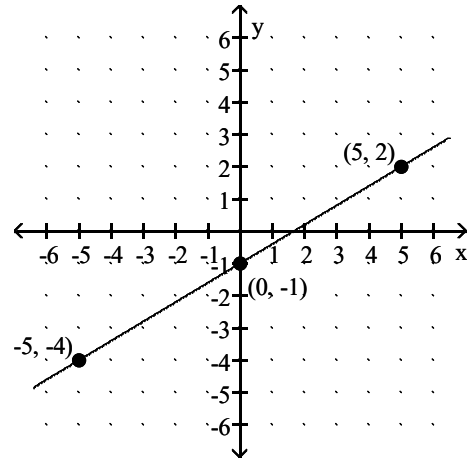
36) $3x - 5y = 5$

36) _____

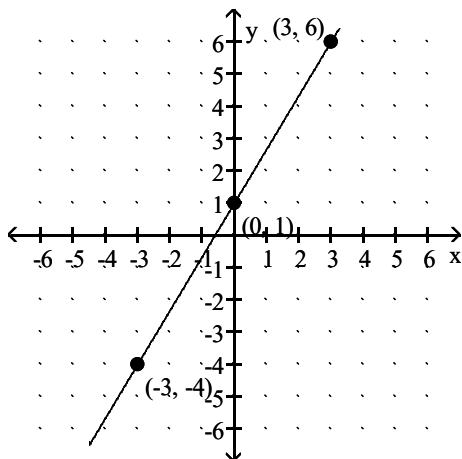
A) $y = \frac{3}{5}x + 1$



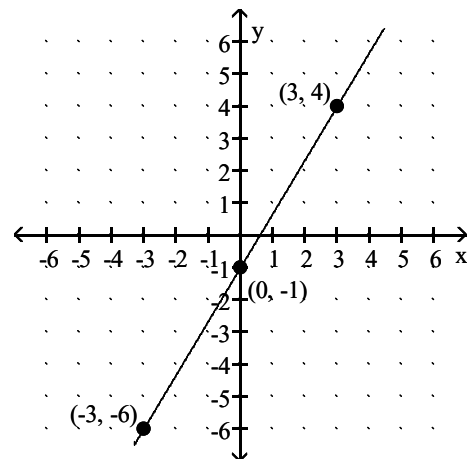
B) $y = \frac{3}{5}x - 1$



C) $y = \frac{3}{5}x + 1$



D) $y = \frac{5}{3}x - 1$



Write the *slope-intercept form* for the equation of the line that passes through the given points.

37) through $(-14, -18)$ and $(21, 12)$

37) _____

A) $y = \frac{6}{7}x - 6$

B) $y = \frac{7}{6}x - \frac{5}{3}$

C) $y = -\frac{6}{7}x + 30$

D) $y = \frac{7}{6}x - \frac{25}{2}$

Evaluate the expression for the given values.

38) $5x^2 + 2y - 6$ when $x = -5$ and $y = -6$

38) _____

A) -143

B) 607

C) 107

D) 131

Perform the indicated operations.

39) $(14t^4 - 9t^2 + 8t) + (9t^4 - 8t + 27) - (8t^4 + t^2 + 14)$

39) _____

A) $31t^4 - 10t^2 + 41$

B) $13t^4 - 10t^2 + 16t - 13$

C) $7t^4 + 13$

D) $15t^4 - 10t^2 + 13$

Multiply.

40) $(4m^2)(3m^3)$

40) _____

A) $12m^5$

B) $432m^6$

C) $432m^5$

D) $12m^6$

41) $3t^3(5t^4 - 4t^2 + 20)$

41) _____

A) $15t^7 - 4t^2 + 20$

B) $5t^4 + 3t^3 - 4t^2 + 20$

C) $15t^7 - 12t^5 + 60t^3$

D) $15t^{12} - 12t^6 + 60t^3$

42) $(10z + 5)(z^2 - 2z + 2)$

42) _____

A) $10z^3 - 20z^2 + 20z + 10$

B) $10z^3 - 15z^2 + 10z + 10$

C) $10z^3 - 10z^2 + 2$

D) $11z^2 - 20z + 10$

43) $(7b - 5)(7b + 5)$

43) _____

A) $49b^2 - 70b + 25$

B) $49b^2 + 25$

C) $49b^2 - 70b - 25$

D) $49b^2 - 25$

44) $(p + 9)^2$

44) _____

A) $p^2 + 18p + 81$

B) $p^2 + 18$

C) $p^2 + 9p + 81$

D) $p^2 + 81$

Divide.

45) $\frac{x^2 + 2x - 120}{x - 10}$

45) _____

A) $x - 8 - \frac{40}{x - 10}$

B) $x - 12$

C) $x + 12$

D) $x + 12 - \frac{240}{x - 10}$

Factor out the greatest common factor.

46) $30x^4 - 48x^2 + 15x$

46) _____

A) $15x(2x^3 - 3x + 1)$

B) $30x^4(1 - 18x^2 + 15x^3)$

C) $3x(10x^3 - 16x + 5)$

D) $x(30x^3 - 48x + 15)$

Factor by grouping.

47) $8x^3 - 6 + 16x^2 - 3x$

47) _____

A) $(8x^2 - 2)(x + 3)$

B) $(8x^2 - 3)(x + 2)$

C) $(2x^2 - 3)(x + 8)$

D) $8x^3 - 6 + x(16x - 3)$

48) Factor by grouping $y^3 + 2y - 6 - 3y^2$

A) $(y^2 + 5)(y - 3)$

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

C) $(4y^2 + 2)(y - 3)$

D) $(y^2 + 2)(y - 3)$

49) Factor by grouping $x^2 + 5xy - xy - 5y^2$

A) $(3x - y)(x + 5y)$

B) $(x - y)(x + 5y)$

C) $(x - 5y)(x + 5y)$

D) $(2x - y)(6x + 5y)$

50) Factor by grouping $a^3 - 4a - a^2b + 4b$

A) $(a - b)(a^2 - 4)$

B) $(3a - b)(a^2 - 4)$

C) $(a - b)(3a^2 - 4)$

D) $(a - 5b)(a^2 - 4)$

Answer Key

Testname: MATH-0361 FINAL REVIEW REVISED

- 1) B
- 2) D
- 3) D
- 4) D
- 5) A
- 6) C
- 7) B
- 8) A
- 9) C
- 10) D
- 11) B
- 12) D
- 13) D
- 14) A
- 15) B
- 16) B
- 17) D
- 18) C
- 19) C
- 20) C
- 21) B
- 22) C
- 23) C
- 24) A
- 25) B
- 26) D
- 27) A
- 28) A
- 29) C
- 30) A
- 31) B
- 32) C
- 33) D
- 34) C
- 35) D
- 36) B
- 37) A
- 38) C
- 39) D
- 40) A
- 41) C
- 42) B

Answer Key

Testname: MATH-0361 FINAL REVIEW REVISED

43) D

44) A

45) C

46) C

47) B

48) D

49) B

50) A