Exam dept final exam review 74 180 questions for elementary algebra m0310 00111011 NEW

Name_____

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

Determine whether the ordered pair satisfies the equation.

1) $5x + 2y = 26$; (4, 3) 1) _____

A) Yes B) No

Objective: (7.4) Determine Whether an Ordered Pair Satisfies an Equation in Two Variables
final009

Determine if the given value is a solution to the equation. Answer Yes or No.

2) $8x - 10 = 15$; $x = 3$ 2) _____

A) No B) Yes

Objective: (8.2) Determine If a Number Is a Solution of an Equation
final010

Solve the equation. Check your solution.

3) $-7x - 7 = 1 + 9x$ 3) _____

A) $\left\{-\frac{1}{3}\right\}$ B) $\{-2\}$ C) $\{2\}$ D) $\left\{-\frac{1}{2}\right\}$

Objective: (8.3) Solve a Linear Equation with the Variable on Both Sides of the Equation
final016

4) $3x - 8 = 4(x + 1)$ 4) _____

A) {12} B) {–4} C) {–12} D) {4}

Objective: (8.3) Solve a Linear Equation with the Variable on Both Sides of the Equation
final017

5) $\frac{5x}{2} + 3 = \frac{1}{7}$ 5) _____

A) $\left\{\frac{2}{5}\right\}$ B) $\left\{-\frac{8}{7}\right\}$ C) $\left\{-\frac{41}{35}\right\}$ D) $\left\{\frac{33}{35}\right\}$

Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions
final018

6) $\frac{13}{10}x + \frac{6}{5} = \frac{6}{5}x$ 6) _____

A) {12} B) {24} C) {–24} D) {–12}

Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions
final019

7) $\frac{r + 6}{5} = \frac{r + 8}{7}$ 7) _____

A) {1} B) {–2} C) {–1} D) {2}

Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions
final020

8) $-46.8 = -5.2x$ 8) _____

A) {2} B) {9} C) {–41.6} D) {41.6}

Objective: (8.4) Solve a Linear Equation Containing Decimals
final021

9) $x + 7.1x = 234.9$ 9) _____

A) {2.9} B) {30} C) {36.1} D) {29}

Objective: (8.4) Solve a Linear Equation Containing Decimals
final022

Solve the equation. State whether the equation is a contradiction, an identity, or a conditional equation.

10) $-7x + 5 + 5x = -2x + 10$ 10) _____

A) ∅ or { }; contradiction B) {−5}; conditional equation
C) {5}; conditional equation D) all real numbers; identity

Objective: (8.4) Classify a Linear Equation as an Identity, Conditional, or a Contradiction
final024

11) $2(x + 3) = (2x + 6)$ 11) _____

A) ∅ or { }; contradiction B) {0}; conditional equation
C) all real numbers; identity D) {12}; conditional equation

Objective: (8.4) Classify a Linear Equation as an Identity, Conditional, or a Contradiction
final025

Solve for y.

12) $14x + 9y = 10$ 12) _____

A) $y = \frac{10 - 14x}{9}$ B) $y = \frac{14}{9}x - \frac{10}{9}$ C) $y = \frac{14x - 10}{9}$ D) $y = \frac{14x + 10}{9}$

Objective: (8.5) Solve a Formula for a Variable
final041

Solve the problem.

13) The sum of a number and three is negative eleven. Find the number. 13) _____

A) 14 B) −14 C) −8 D) 0

Objective: (8.6) Build Models for Solving Direct Translation Problems
final042

14) Six times a number, added to 18, is 36. Find the number. 14) _____

A) 18 B) 108 C) 3 D) −3

Objective: (8.6) Build Models for Solving Direct Translation Problems
final043

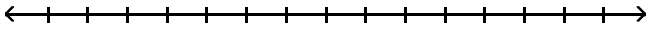
15) 2 times a number less than 7 times the same number is 35. Find the number. 15) _____

A) 5 B) −7 C) 7 D) 2.4

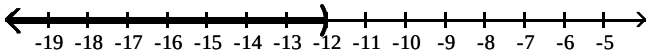
Objective: (8.6) Build Models for Solving Direct Translation Problems
final044

Solve the inequality and express the solution set in interval notation. Graph the solution set on the real number line.

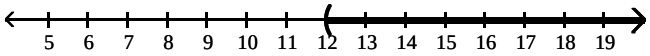
16) $-3x > 36$ 16) _____



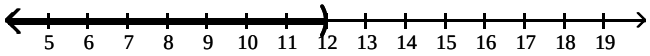
A) $(-\infty, -12)$



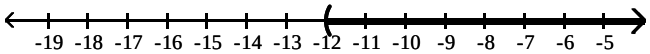
B) $(12, \infty)$



C) $(-\infty, 12)$

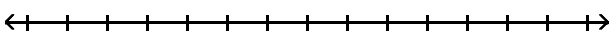


D) $(-12, \infty)$

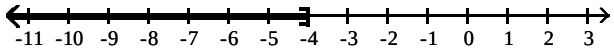


Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
final064

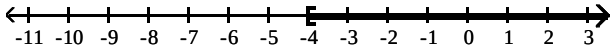
17) $6x + 3 > 5x - 1$ 17) _____



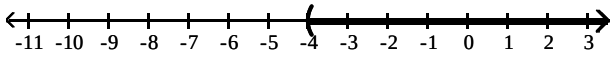
A) $(-\infty, -4]$



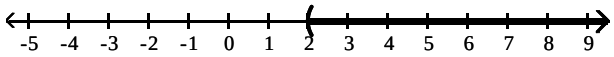
B) $[-4, \infty)$



C) $(-4, \infty)$

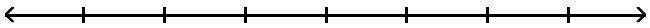


D) $(2, \infty)$

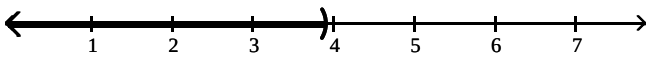


Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
final066

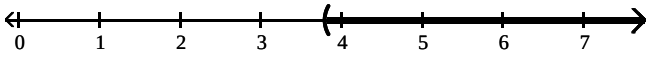
18) $1.4x - 3.8 > 0.7x - 1.07$ 18) _____



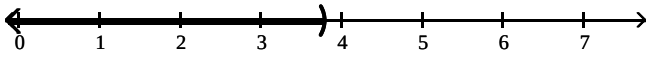
A) $(-\infty, 3.9)$



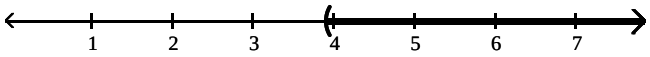
B) $(3.8, \infty)$



C) $(-\infty, 3.8)$

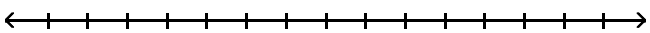


D) $(3.9, \infty)$

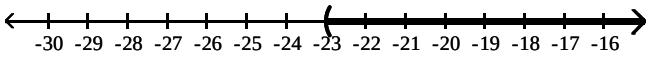


Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
final067

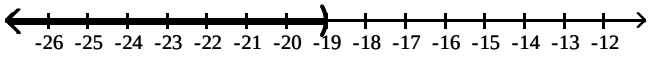
19) $6x - 2 < 7(x - 3)$ 19) _____



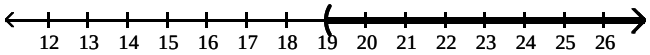
A) $(-23, \infty)$



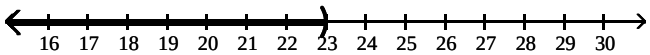
B) $(-\infty, -19)$



C) $(19, \infty)$

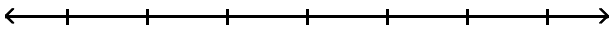


D) $(-\infty, 23)$

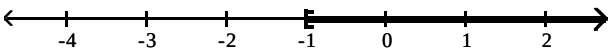


Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
final068

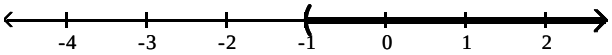
20) $35x + 35 > 5(6x + 6)$ 20) _____



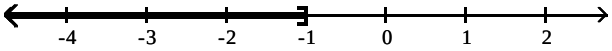
A) $[-1, \infty)$



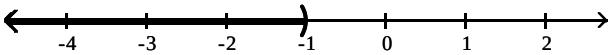
B) $(-1, \infty)$



C) $(-\infty, -1]$

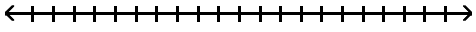


D) $(-\infty, -1)$

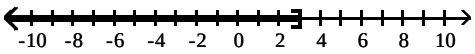


Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
final069

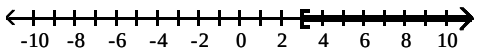
21) $5 - 3(1 - x) \leq 11$ 21) _____



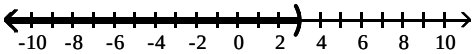
A) $(-\infty, 3]$



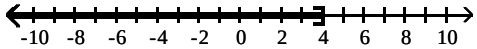
B) $[3, \infty)$



C) $(-\infty, 3)$



D) $(-\infty, 4]$



Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
final070

Decide whether or not the ordered pair is a solution to the equation.

22) $4x + 2y = 16$; (2, 4) 22) _____

A) Yes B) No

Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation
final071

23) $3x - 5y = 35$; (5, 4) 23) _____

A) Yes B) No

Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation
final072

Solve the problem.

24) Find an ordered pair that satisfies the equation $y = -x + 9$ by letting $x = 5$. 24) _____

A) (4, 5) B) (5, 5) C) (4, 4) D) (5, 4)

Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation
final073

25) Find an ordered pair that satisfies the equation $4x + y = -34$ by letting $x = -9$. 25) _____

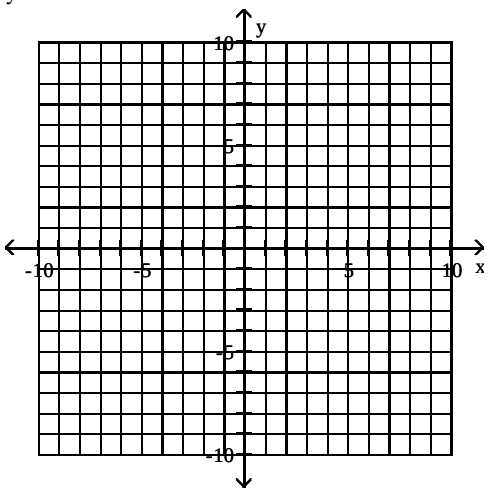
A) (−9, −9) B) (−9, 2) C) (−9, −38) D) (2, −9)

Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation
final074

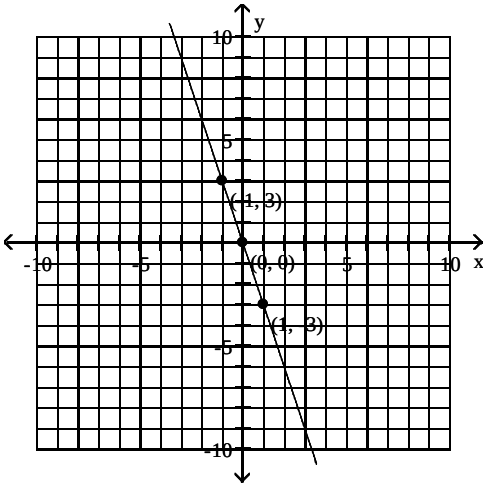
Graph the linear equation using the point-plotting method.

26) y = 2x – 3

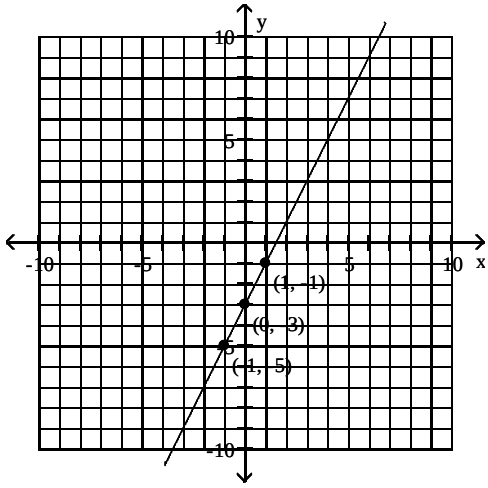
26) _____



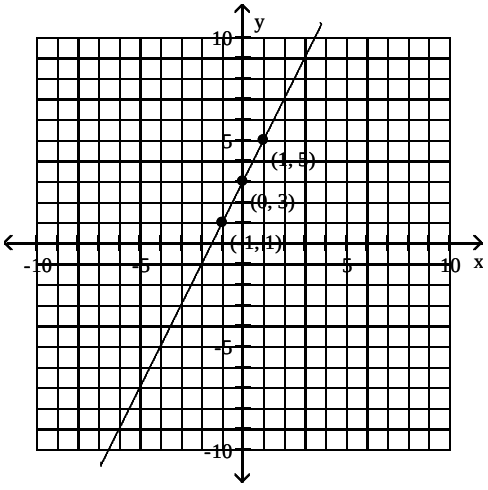
A)



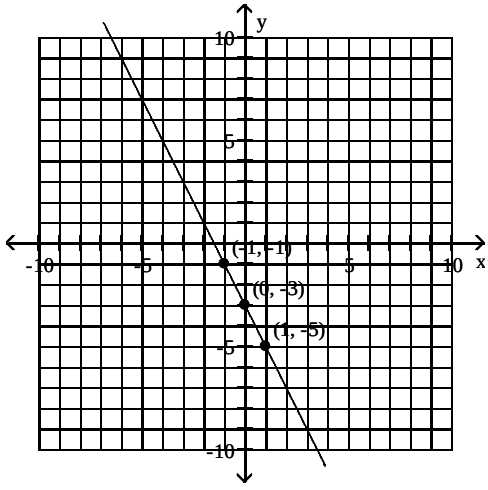
B)



C)

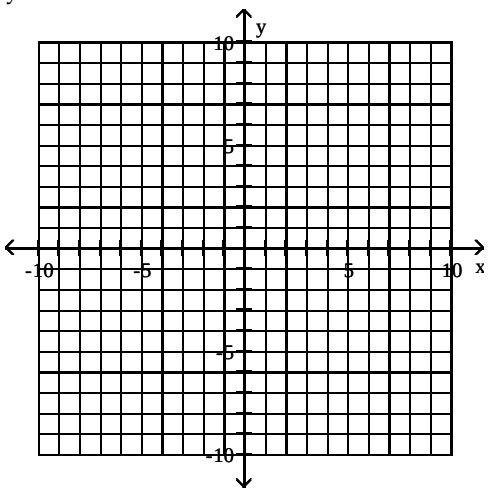


D)

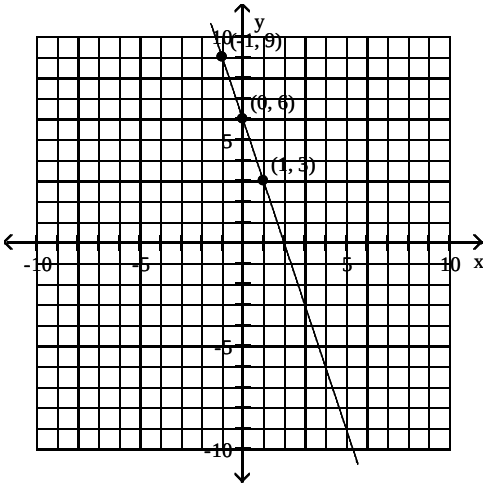


Objective: (9.3) Graph a Line by Plotting Points
final075

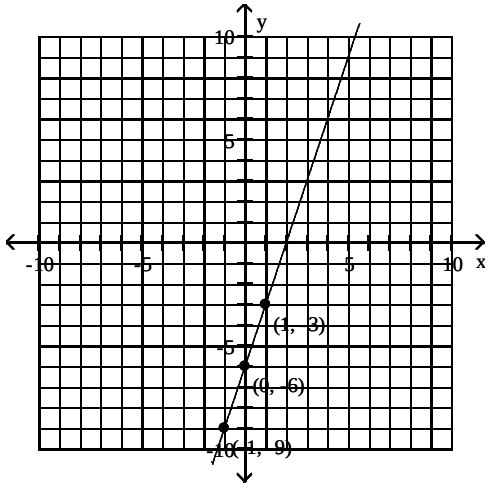
27) $y = -3x - 6$ 27) _____



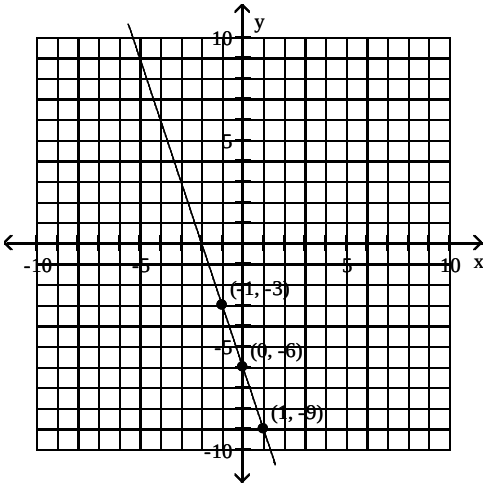
A)



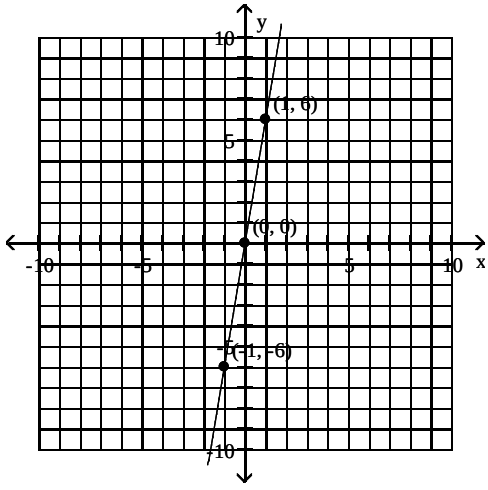
B)



C)



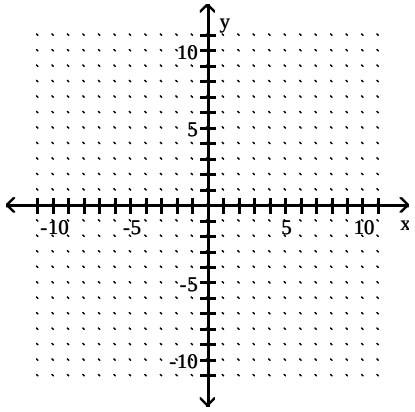
D)



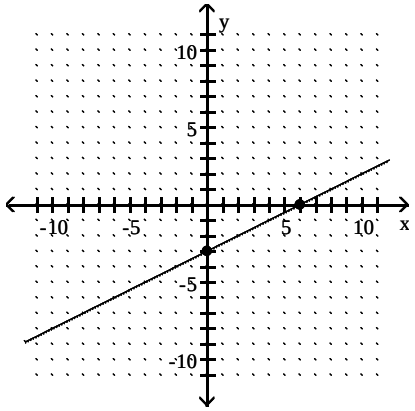
Objective: (9.3) Graph a Line by Plotting Points
final076

Graph the linear equation by finding and plotting its intercepts.

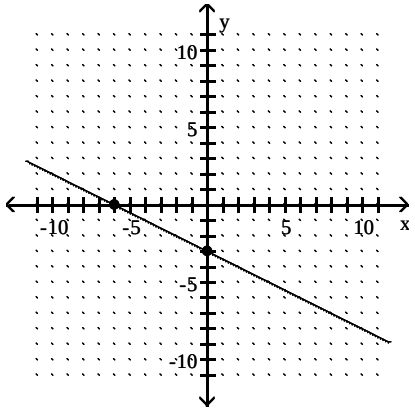
28) $-5x - 10y = 30$ 28) _____



A) (0, –3), (6, 0)



B) (0, –3), (–6, 0)



Objective: (9.3) Graph a Line Using Intercepts
final079

Find the slope of the line containing the two points.

29) (1, –5); (–9, 6) 29) _____

A) $-\frac{11}{10}$ B) $-\frac{10}{11}$ C) $\frac{11}{10}$ D) $\frac{10}{11}$

Objective: (9.4) Find the Slope of a Line Given Two Points
final083

Find the slope and the y–intercept.

30) $y = 3x + 11$ 30) _____

A) $m = 11; b = 3$ B) $m = \frac{1}{3}; \ b = 11$ C) $m = -3; \ b = -11$ D) $m = 3; b = 11$

Objective: (9.5) Use the Slope–Intercept Form to Identify the Slope and y–Intercept of a Line
final087

31) $3x + y = 4$ 31) _____

A) $m = -\frac{1}{3}; b = \frac{4}{3}$ B) $m = -3; b = 4$ C) $m = \frac{3}{4}; b = \frac{1}{4}$ D) $m = 3; b = 4$

Objective: (9.5) Use the Slope–Intercept Form to Identify the Slope and y–Intercept of a Line
final089

32) $7x - 3y = -11$ 32) _____

A) $m = -7; b = -11$

B) $m = \frac{7}{3}; b = \frac{11}{3}$

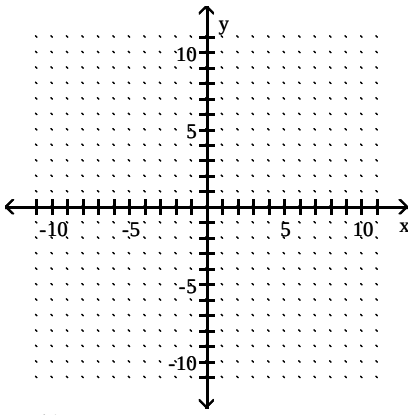
C) $m = 21; b = 33$

D) $m = \frac{3}{7}; b = -\frac{11}{7}$

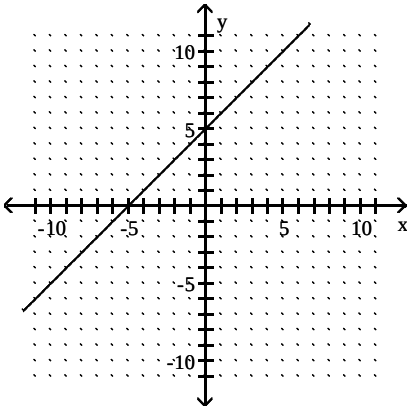
Objective: (9.5) Use the Slope–Intercept Form to Identify the Slope and y–Intercept of a Line
final090

Use the slope and y–intercept to graph the equation.

33) $y = \frac{1}{2}x + 5$ 33) _____



A)



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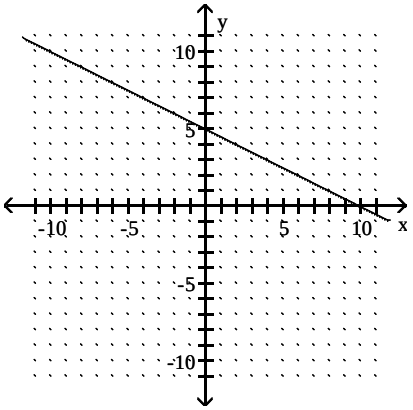

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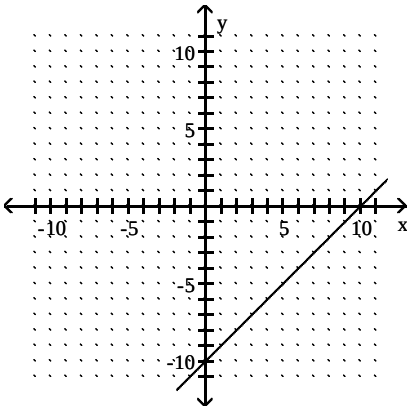

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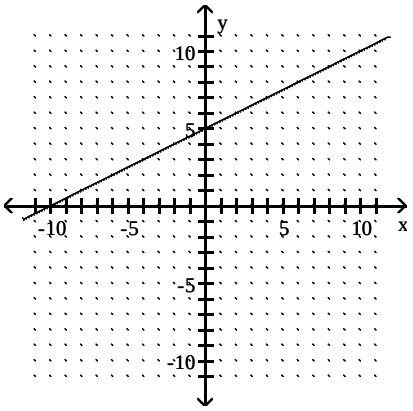
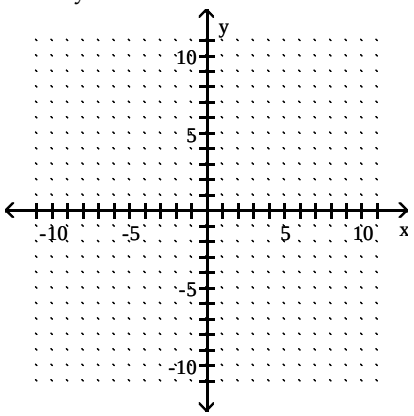
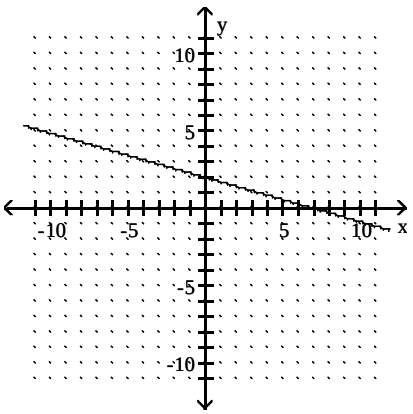


Objective: (9.5) Graph a Line Whose Equation Is in Slope–Intercept Form
final092

34) $7x + 2y = 14$ 34) _____



A)



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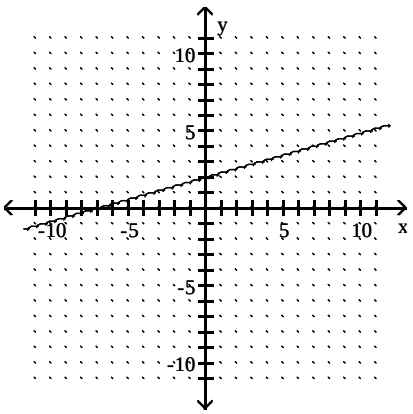

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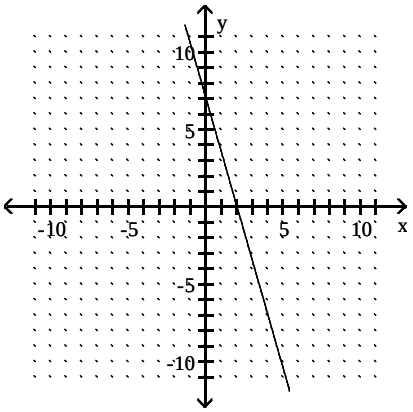
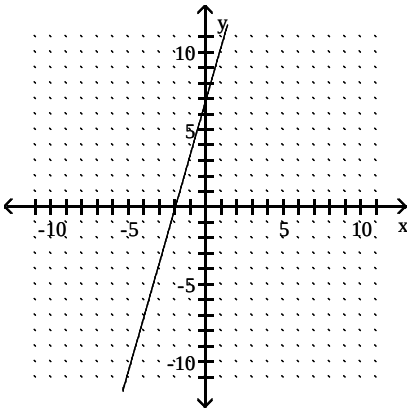


D)



Objective: (9.5) Graph a Line Whose Equation Is in the Form Ax + By = C
final094

Find the equation of the line with the given slope and intercept.

35) Slope –8; y–intercept is 2 35) _____

A) $y = -2x + 8$ B) $y = 8x - 2$ C) $y = -8x + 2$ D) $y = 2x - 8$

Objective: (9.5) Find the Equation of a Line Given Its Slope and y–Intercept
final095

Find the equation of the line described. Write the equation in slope–intercept form, if possible.

36) (4, 3); slope = –3 36) _____

A) $y = -3x + 15$ B) $x = -3y + 15$ C) $y = -3x - 15$ D) $x = -3y - 15$

Objective: (9.6) Find the Equation of a Line Given a Point and a Slope
final096

Determine if the lines parallel, perpendicular, or neither.

37) L_1: $y = x - 6$ 37) _____

L_2: $y = 2 - x$

A) neither B) perpendicular C) parallel

Objective: (9.7) Determine Whether Two Lines Are Perpendicular
final098

38) L_1: $y = 7x + 9$ 38) _____

L_2: $y = -7x - 3$

A) perpendicular B) parallel C) neither

Objective: (9.7) Determine Whether Two Lines Are Perpendicular
final099

39) L_1: $y = 7x + 5$ 39) _____

L_2: $y = -\frac{1}{7}x + 3$

A) perpendicular B) parallel C) neither

Objective: (9.7) Determine Whether Two Lines Are Perpendicular
ffinal100

40) L_1: $6x + 2y = 8$ 40) _____

L_2: $18x + 6y = 27$

A) parallel B) neither C) perpendicular

Objective: (9.7) Determine Whether Two Lines Are Perpendicular
final101

Solve the system of equations using substitution.

41) $\begin{cases} x + y = -6 \\ y = 2x \end{cases}$ 41) _____

A) (–2, 4) B) (–2, –4) C) (2, 4) D) (2, –4)

Objective: (10.3) Solve a System of Linear Equations Using the Substitution Method
final102

Solve the system of equations using elimination.

42) $\begin{cases} 3x + y = -30 \\ 5x - y = 6 \end{cases}$ 42) _____

A) (–3, –21) B) no solution

C) infinitely many solutions D) (–21, –3)

Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method
final103

43) $\begin{cases} x - 4y = 17 \\ -3x - 5y = 51 \end{cases}$ 43) _____

A) (–8, –5) B) (–7, –6) C) (7, –5) D) no solution

Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method
final106

Solve the system of equations using elimination. State whether the system is inconsistent, or consistent and dependent.

44) $\begin{cases} x + y = 4 \\ x + y = -6 \end{cases}$ 44) _____

A) no solution; consistent and dependent

B) infinitely many solutions; inconsistent

C) infinitely many solutions; consistent and dependent

D) no solution; inconsistent

Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method
final107

Add the polynomials. Express your answer in standard form.

45) $(-2x^2 - 5x - 6) + (8x^2 - 5x + 4)$ 45) _____

A) $-16x^2 - 5x - 2$ B) $6x^4 - 10x^2 - 2$ C) $6x^2 - 10x - 2$ D) $6x^2 - 5x - 2$

Objective: (11.2) Simplify Polynomials by Combining Like Terms
final108

Subtract the polynomials. Express your answer in standard form.

46) $(7x^2 + 20x + 5) - (5x^2 - 4x - 12)$ 46) _____

A) $2x^2 + 24x - 7$ B) $2x^2 + 25x - 7$ C) $43x^9$ D) $2x^2 + 24x + 17$

Objective: (11.2) Simplify Polynomials by Combining Like Terms
final109

Evaluate the polynomial for the given value.

47) $-2x^2 + 8x - 3 \quad x = -3$ 47) _____

A) 39 B) 3 C) -9 D) -45

Objective: (11.2) Evaluate Polynomials
final110

Simplify the expression.

48) $(-8x^9y^8z)^2$ 48) _____

A) $-8x^{11}y^{10}z$ B) $-64x^{18}y^{16}z^2$ C) $16x^{18}y^{16}z^2$ D) $64x^{18}y^{16}z^2$

Objective: (11.3) Simplify Exponential Expressions Containing Products
final111

Multiply the monomials.

49) $(7x^6y)(8x^2y^4)$ 49) _____

A) $56x^8y^5$ B) $56x^8y^4$ C) $56x^{12}y^4$ D) $15x^8y^4$

Objective: (11.3) Multiply a Monomial by a Monomial
final113

50) $(m^3n)^4(-4mn^6)$ 50) _____

A) $-16m^4n^7$ B) $4m^{13}n^{10}$ C) $-4m^{12}n^{24}$ D) $-4m^{13}n^{10}$

Objective: (11.3) Multiply a Monomial by a Monomial
final114

Use the Distributive Property to find the product.

51) $2y^2(3y^2 + 3y - 7)$ 51) _____

A) $6y^4 + 6y - 14$ B) $5y^4 + 5y - 5$

C) $6y^4 + 6y^3 - 14y^2$ D) $6y^4 + 6y^2 - 14$

Objective: (11.4) Multiply a Polynomial by a Monomial
final116

52) $(4y - 5)(4y - 3)$ 52) _____

A) $16y^2 + 15$ B) $16y^2 + 8y + 15$ C) $16y^2 - 32y + 15$ D) $8y^2 - 8$

Objective: (11.4) Multiply Two Binomials Using the Distributive Property
final118

Find the product using the FOIL method.

53) $(y - 1)(y - 4)$ 53) _____

A) $y^2 - 5y + 4$ B) $2y + 4$ C) $2y^2 - 4$ D) $y^2 + 5y - 4$

Objective: (11.4) Multiply Two Binomials Using the FOIL Method
final119

Find the product of the sum and difference of two terms.

54) $(7p + 9)(7p - 9)$ 54) _____

A) $49p^2 - 81$ B) $p^2 - 81$

C) $49p^2 + 126p - 81$ D) $49p^2 - 126p - 81$

Objective: (11.4) Multiply the Sum and Difference of Two Terms
final125

Find the product.

55) $(6x - 11y)^2$ 55) _____

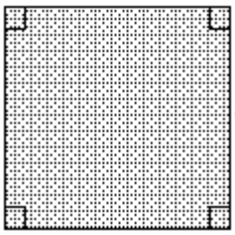
A) $36x^2 + 121y^2$ B) $6x^2 + 121y^2$

C) $36x^2 - 132xy + 121y^2$ D) $6x^2 - 132xy + 121y^2$

Objective: (11.4) Square a Binomial
fina130

Find an algebraic expression that represents the area of the shaded region.

56) 56) _____



A) $49x^2 - 140x + 100$ B) $49x^2 + 140x + 100$

C) $49x^2 - 140x - 100$ D) $49x^2 + 140x - 100$

Objective: (11.4) Square a Binomial
final131

Find the product.

57) $(2y + 11)(5y^2 - 2y - 9)$ 57) _____

A) $10y^3 + 51y^2 - 40y - 99$ B) $10y^3 + 59y^2 + 40y + 99$

C) $65y^2 - 26y - 117$ D) $10y^3 - 4y^2 - 18y + 11$

Objective: (11.4) Multiply a Polynomial by a Polynomial
final134

Use the Quotient Rule to simplify. All variables are nonzero.

58) $\dfrac{56m^{20}n^{14}}{7m^{19}n^{10}}$ 58) _____

A) $8n^4$ B) $8mn^4$ C) $56mn^4$ D) $8m^{39}n^{24}$

Objective: (11.5) Simplify Exponential Expressions Using the Quotient Rule
final135

Use the Quotient to a Power Rule to simplify. All variables are nonzero.

59) $\left(\dfrac{6t^3}{3s^4}\right)^2$ 59) _____

A) $\dfrac{4t^6}{s^4}$ B) $\dfrac{4t^6}{s^8}$ C) $\dfrac{4t^5}{s^6}$ D) $\dfrac{2t^6}{s^8}$

Objective: (11.5) Simplify Exponential Expressions Using the Quotient to a Power Rule
final138

Use the Zero Exponent Rule to simplify. All variables are nonzero.

60) 9^0 60) _____

A) 1 B) 9 C) 0 D) –1

Objective: (11.5) Simplify Exponential Expressions Using Zero as an Exponent
final139

Use the Negative Exponent Rules to simplify. Write the answer with positive exponents. All variables are nonzero.

61) 3^{-4} 61) _____

A) –81 B) $\frac{1}{81}$ C) $\frac{1}{12}$ D) 81

Objective: (11.5) Simplify Exponential Expressions Using Negative Exponents
final142

Divide and simplify.

62) $\frac{24x^2 + 20x - 11}{4x}$ 62) _____

A) $6x - 6$ B) $6x^2 + 5x - \frac{11}{4}$ C) $24x + 20 - \frac{11}{4x}$ D) $6x + 5 - \frac{11}{4x}$

Objective: (11.6) Divide a Polynomial by a Monomial
final144

Find the quotient using long division.

63) $\frac{3m^2 + 17m - 56}{m + 8}$ 63) _____

A) $3m - 7 + \frac{6}{m - 7}$ B) $m - 7$ C) $3m - 7$ D) $3m + 7$

Objective: (11.6) Divide a Polynomial by a Binomial
final146

Factor the trinomial completely. If the trinomial cannot be factored, say it is prime.

64) $x^2 + x - 20$ 64) _____

A) $(x - 5)(x + 4)$ B) $(x + 1)(x - 20)$ C) prime D) $(x - 4)(x + 5)$

Objective: (12.3) Factor Trinomials of the Form x^2 + bx + c
final151

Factor completely. If the polynomial is prime, state so.

65) $81x^2 - 16y^2$ 65) _____

A) $(9x + 4y)(9x - 4y)$ B) prime

C) $(9x + 4y)^2$ D) $(9x - 4y)^2$

Objective: (12.5) Factor Difference of Two Squares
final159

Solve the equation by factoring.

66) $5x(6x + 30) = 0$ 66) _____

A) {0, –5} B) {0, –5 , 5} C) $\left\{0, -\frac{1}{5}\right\}$ D) {0, 5}

Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final161

67) $(y - 7)(9y + 26) = 0$ 67) _____

A) $\left\{-\frac{9}{26}, 7\right\}$ B) $\left\{-7, \frac{26}{9}\right\}$ C) $\left\{-7, \frac{9}{26}\right\}$ D) $\left\{-\frac{26}{9}, 7\right\}$

Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final162

68) $x^2 + 2x - 48 = 0$ 68) _____

A) {–8, 6} B) {8, –6} C) {8, 6} D) {–8, 1}

Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final164

69) $x^2 - 17x + 72 = 0$ 69) _____

A) {–9, –8} B) {9, 8} C) {72, 0} D) {–9, 8}

Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final165

Find the function value.

70) Find f(14) when f(x) = 2x + 12. 70) _____

A) –16 B) 40 C) 29.2 D) 16

Objective: (14.4) Find the Value of a Function
final169

71) Find f(5) when f(x) = –7x + 6. 71) _____

A) –1 B) 41 C) –29 D) –35

Objective: (14.4) Find the Value of a Function
final170

72) Find f(3) when $f(x) = x^2 + 3x - 4$. 72) _____

A) –4 B) 4 C) 22 D) 14

Objective: (14.4) Find the Value of a Function
final172

73) Find f(–9) when f(x) = |x| – 6. 73) _____

A) 3 B) –3 C) 15 D) –15

Objective: (14.4) Find the Value of a Function
final173

74) $f(x) = \frac{x + 5}{14x - 10}$; f(–10) 74) _____

A) $\frac{1}{26}$ B) $-\frac{1}{12}$ C) $\frac{1}{30}$ D) $-\frac{1}{30}$

Objective: (14.4) Find the Value of a Function
final174

Answer Key
Testname: AATFM0310FALL2014SULDEPTFIN

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

51) C
52) C
53) A
54) A
55) C
56) A
57) A
58) B
59) B
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61) B
62) D
63) C
64) D
65) A
66) A
67) D
68) A
69) B
70) B
71) C
72) D
73) A
74) C