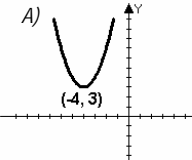
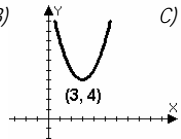
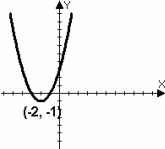
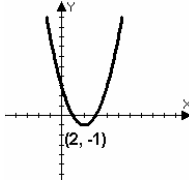
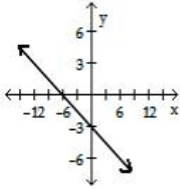


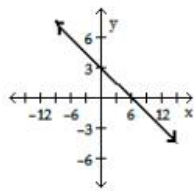
- Find the **SUM** of the solutions of the equation.  $4x^2 + 20x = 4x$     A) 8    B) 0    C) -4    D) -16
- Solve  $x^2 + 8x + 5 = 0$     A)  $\{-8 \pm 4\sqrt{11}\}$     B)  $\{-4 + \sqrt{11}\}$     C)  $\{-4 \pm \sqrt{11}\}$     D)  $\{4 \pm \sqrt{11}\}$
- Graph the parabola.  $y = x^2 - 4x + 3$     A)     B)     C)     D) 
- Solve  $x^2 - 20 = 0$     A)  $\pm 2\sqrt{10}$     B)  $\pm 2\sqrt{5}$     C)  $\pm 2$     D)  $\pm 2i\sqrt{10}$
- Solve  $(x - 2)^2 = 25$     A)  $\{5, 9\}$     B)  $\{3, 7\}$     C)  $\{-3, 7\}$     D)  $\{-7, 3\}$
- Find the **SUM** of the solutions of the following quadratic equation.  $x^2 + 5x = 24$     A) 8    B) 3    C) 5    D) -5
- Multiply and simplify the result.  $(5x - 2y)(3x - y)$   
A)  $8x^2 - 11xy + 2y^2$     B)  $15x^2 - 11xy + 2y^2$     C)  $8x^2 - 8xy + 2y^2$     D)  $15x^2 - 11xy + 2y$
- Multiply and simplify the result.  $(4x + y)^2$     A)  $8x^2 + y^2$     B)  $16x^2 + y^2$     C)  $16x^2 + 2xy + y^2$     D)  $16x^2 + 8xy + y^2$
- Multiply and simplify the result.  $(2x - 11)(3x^2 + 6x - 2)$   
A)  $6x^2 - 40x - 33$     B)  $6x^3 - 21x^2 - 70x + 22$     C)  $6x^3 - 21x^2 - 90x + 22$     D)  $6x^3 + 40x^2 + 22$
- Multiply and simplify the result.  $(2x - 3y)(2x + 3y)$     A)  $4x^2 - 9$     B)  $4x^2 - 9y^2$     C)  $4x^2 - 6x + 9$     D)  $4x^2 - 6xy - 9y^2$
- Factor by grouping.  $24x^2 - 18x + 20x - 15$     A)  $(24x - 5)(x + 3)$     B)  $(24x + 5)(x - 3)$     C)  $(6x - 5)(4x + 3)$     D)  $(6x + 5)(4x - 3)$
- Factor by grouping.  $15x^2 + 10xy - 18xy - 12y^2$   
A)  $(5x + 6y)(3x + 2y)$     B)  $(15x - 6y)(x + 2y)$     C)  $(5x - 6y)(3x + 2y)$     D)  $(5x - 6)(3x + 2)$
- Perform the indicated operation.  $x - 7 \sqrt{x^2 - 12x + 35}$     A)  $5 - x$     B)  $x - 5$     C)  $x + 7$     D)  $x + 5$
- Perform the long division to find the remainder.  $2x + 3 \overline{)4x^2 - 12x + 20}$     A) 29    B) 11    C) -7    D) 47
- Simplify as much as possible.  $\frac{\frac{3}{p^2 - 16} + p}{\frac{1}{p - 4}}$     A)  $\frac{3 + p^3 + 16p}{p}$     B)  $\frac{3 + p^2 - 16}{p + 16}$     C)  $\frac{3 + p^3 - 16p}{p + 4}$     D)  $\frac{1}{p^2 - 4}$
- Find the domain.  $f(x) = \frac{4}{5 - x}$     A)  $(-\infty, \infty)$     B)  $(-\infty, 5) \cup (5, \infty)$     C)  $(-\infty, 0) \cup (0, \infty)$     D)  $(5, \infty)$
- Find the domain.  $m(x) = \sqrt{9 - x}$     A)  $(-\infty, 9]$     B)  $(-\infty, 0]$     C)  $[9, \infty)$     D)  $(-\infty, 9) \cup (9, \infty)$
- Factor completely.  $x^2 - 3x + 2$     A)  $(x - 1)(x - 2)$     B)  $(x + 1)(x - 2)$     C)  $(x + 1)(x + 2)$     D)  $(x - 1)(x + 2)$
- Factor completely.  $6x^2 - 13x + 5$     A)  $(6x - 1)(x - 5)$     B)  $(2x - 1)(3x - 5)$     C)  $(6x + 1)(x + 5)$     D)  $(2x + 1)(3x + 5)$
- Factor completely.  $x^2 - 10x - 24$ . One of the factors is \_\_\_\_\_.    A)  $(x - 12)$     B)  $(x - 8)$     C)  $(x + 3)$     D)  $(x + 6)$
- Factor the given polynomial expression.  $15x^2 - 20x + 18x - 24$   
A)  $(5x - 6)(3x + 4)$     B)  $(15x - 6)(x + 4)$     C)  $(5x + 6)(3x - 4)$     D)  $(15x + 6)(x - 4)$
- Factor completely.  $4x^5 - 28x^4 + 49x^3$   
A)  $(2x^3 - 7x^2)(2x^2 - 7x^3)$     B)  $x^3(4x^2 - 28x + 49)$     C)  $x(4x^4 - 28x^3 + 49x^2)$     D)  $x^3(2x - 7)^2$
- Factor completely.  $x^3 - 216$   
A)  $(x - 6)(x^2 + 36)$     B)  $(x + 6)(x^2 - 6x + 36)$     C)  $(x + 216)(x^2 - 1)$     D)  $(x - 6)(x^2 + 6x + 36)$
- The product of two consecutive negative integers is 42. Find the larger integer.    A) 7    B) -6    C) -21    D) -11
- The length of a rectangle is 3 feet less than twice the width. The perimeter is 174 feet. What is the length?  
A) 57 ft    B) 30 ft    C) 114 ft    D) 60 ft
- Find the *quadrant* that contains the ordered pair  $(-14, 30)$ .    A) I    B) II    C) III    D) IV
- Find the slope of the line through  $(2, 1)$  and  $(3, 8)$     A)  $1/7$     B) 7    C)  $9/5$     D) -7
- Given  $4x - 2y = 8$ , find the slope and y-intercept.  
A) slope: 4;  $(0, 8)$     B) slope: 2;  $(0, -4)$     C) slope:  $1/2$ ;  $(0, -4)$     D) slope: 2;  $(0, 2)$

29. Graph the line that contains the point (0,3) and has slope  $m = \frac{1}{2}$ .

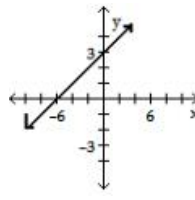
A)



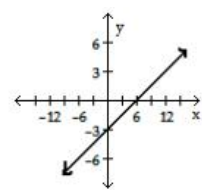
B)



C)



D)



30. Solve the quadratic equation.  $2x^2 + 10x = -1$     A)  $\left\{ \frac{-5 \pm \sqrt{3}}{2} \right\}$     B)  $\left\{ \frac{-5 \pm \sqrt{23}}{4} \right\}$     C)  $\left\{ \frac{-5 \pm \sqrt{23}}{2} \right\}$     D)  $\left\{ \frac{-10 \pm \sqrt{23}}{2} \right\}$

31. Solve the quadratic equation.  $3k^2 - 26k - 9 = 0$     A)  $\left\{ -\frac{1}{3}, 9 \right\}$     B)  $\left\{ \frac{1}{26}, -\frac{1}{3} \right\}$     C)  $\{-3, 9\}$     D)  $\left\{ -\frac{1}{3}, 3 \right\}$

32. Simplify by writing the expression in lowest terms.  $\frac{3z^2 + 10z - 8}{4z^2 + 21z + 20}$     A)  $\frac{z+2}{z-5}$     B)  $\frac{3z-2}{4z+5}$     C)  $\frac{z-1}{z+6}$     D)  $\frac{3z+4}{4z-4}$

33. Solve.  $8(x-3) = -3(x-4)$     A)  $\frac{36}{11}$     B)  $\frac{36}{5}$     C)  $\frac{-12}{11}$     D)  $\frac{-12}{5}$

34. Solve for  $x$ .  $8x - xy = -3x + 4$     A)  $\frac{y}{y-11}$     B)  $\frac{13}{y}$     C)  $\frac{4}{11-y}$     D)  $\frac{-3x+4}{8y}$

35. Solve for  $C$ .  $F = \frac{9}{5}C + 32$     A)  $C = \frac{5}{9}(F-32)$     B)  $C = \frac{9}{5}(F-32)$     C)  $C = \frac{5}{9}F - 32$     D)  $C = \frac{9}{5}F - 32$

36. Simplify by reducing to lowest terms.  $\frac{x^2 + 6x + 9}{x^3 + 27}$     A)  $\frac{x+3}{x^2 + 3x + 9}$     B)  $\frac{x+3}{x^2 - 3x + 9}$     C)  $\frac{x-3}{x^2 + 3x + 9}$     D)  $\frac{x-3}{x^2 - 3x + 9}$

37. Multiply and reduce to lowest terms.  $\frac{x^2 + 6x}{27} \cdot \frac{3x - 18}{36x - x^3}$     A) 1    B) -9    C)  $-\frac{1}{9}$     D)  $\frac{x-3}{x^2 + 3}$

38. Simplify as much as possible.  $\frac{\frac{1}{a} + 1}{\frac{1}{a} - 1}$     A) 1    B)  $1 - a^2$     C)  $\frac{a}{1 - a^2}$     D)  $\frac{1 + a}{1 - a}$

39. Simplify as much as possible.  $\frac{\frac{2}{x+y} - 1}{\frac{1}{x+y} + 2}$     A) 1    B)  $\frac{2-x-y}{1+2x+2y}$     C)  $\frac{2-x+y}{1+2x+2y}$     D) -1

40. Solve the system to find the  $x$  value of the solution.  $9x - 37 = 7y$     A)  $x = 6$     B)  $x = 8$     C)  $x = 5$     D)  $x = 2$   
 $6x - 4y = 28$

41. Solve the equation.  $|8m + 1| + 7 = 12$     A)  $\emptyset$     B)  $\left\{ -\frac{14}{9}, -\frac{4}{9} \right\}$     C)  $\left\{ -\frac{14}{5}, -\frac{4}{5} \right\}$     D)  $\left\{ \frac{1}{2}, -\frac{3}{4} \right\}$

42. Find  $f(-2)$  when  $f(x) = 8x - 5$ .    A) 3    B) -21    C) -6    D) -11

43. Find  $f(-5)$  when  $f(x) = -x^2 + 4x - 2$ .    A) 10    B) -7    C) 3    D) -47

44. Solve the equation.  $6a + 4 = a + 7$     A)  $\left\{ \frac{11}{5} \right\}$     B)  $\left\{ \frac{11}{6} \right\}$     C)  $\left\{ \frac{1}{2} \right\}$     D)  $\left\{ \frac{3}{5} \right\}$

45. Find the solution set to the equation.  $\frac{1}{x} + \frac{1}{4} = \frac{1}{3}$     A)  $\{7\}$     B)  $\{12\}$     C)  $\{3\}$     D) No Solution

46. Solve the equation.  $\frac{3p}{5} - 12 = p$     A)  $\{-30\}$     B)  $\{30\}$     C)  $\{120\}$     D)  $\{60\}$

47. Simplify.  $\left( -\frac{5}{4} \right)^{-2}$     A)  $\frac{8}{25}$     B)  $-\frac{8}{5}$     C)  $\frac{16}{25}$     D)  $\frac{25}{16}$

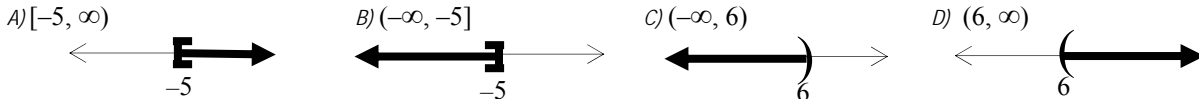
48. Write the answer with *positive exponents*:  $(2x^5)(-3x^{-9})$     A)  $-6x^4$     B)  $-\frac{6}{x^{45}}$     C)  $-\frac{6}{x^4}$     D)  $-6x^{45}$

49. Simplify.  $\left(\frac{64}{125}\right)^{\frac{2}{3}}$     A)  $\frac{125}{64}$     B)  $\frac{64}{125}$     C)  $\frac{16}{25}$     D)  $\frac{25}{16}$

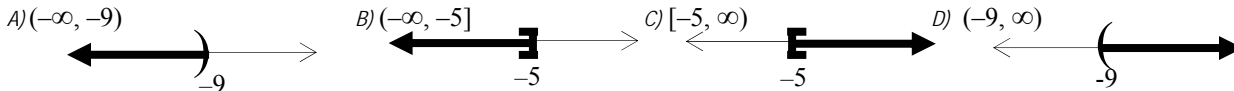
50. Rationalize the denominator.  $\frac{7+5i}{3-2i}$     A)  $\frac{11+29i}{13}$     B)  $\frac{31+29i}{5}$     C)  $\frac{31-i}{13}$     D)  $\frac{11-29i}{5}$

51. Write  $\frac{6+3i}{5+2i}$  as a complex number in standard form.    A)  $\frac{24-3i}{21}$     B)  $\frac{36+3i}{29}$     C)  $\frac{36-3i}{21}$     D)  $\frac{24-79i}{29}$

52. Solve and graph the inequality. Give answer in interval notation.  $6z + 10 \leq 5z + 5$



53. Solve and graph the inequality. Give answer in interval notation.  $-9y + 10 \geq -10y + 5$

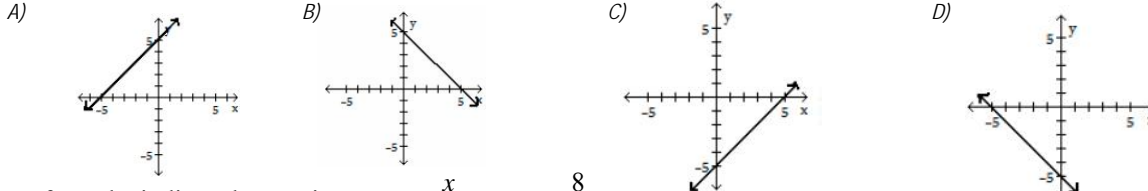


54. Simplify.  $-5\sqrt{7} - 7\sqrt{63}$     A)  $26\sqrt{7}$     B)  $-26\sqrt{7}$     C)  $-38\sqrt{7}$     D)  $-13\sqrt{7}$

55. Simplify.  $8\sqrt{24} - 3\sqrt{96} - 7\sqrt{216}$     A)  $8\sqrt{6}$     B)  $13\sqrt{6}$     C)  $-38\sqrt{6}$     D)  $-13\sqrt{6}$

56. Simplify.  $\sqrt{5} + 4\sqrt{20} - 2\sqrt{45}$     A)  $3\sqrt{5}$     B)  $2\sqrt{5}$     C)  $3\sqrt{15}$     D)  $2\sqrt{15}$

57. Match the equation by finding intercepts.  $5x + 5y = 25$

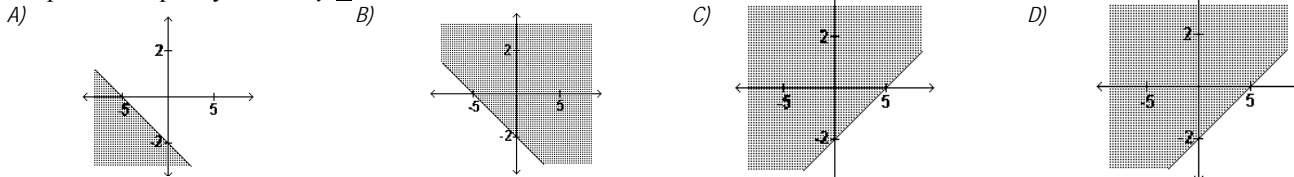


58. Perform the indicated operations.  $\frac{x}{x^2-16} - \frac{8}{x^2+5x+4}$

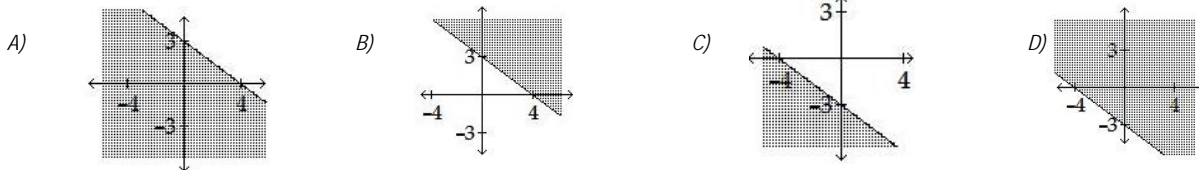
A)  $\frac{x^2-7}{(x-4)(x+4)(x+1)}$     B)  $\frac{x^2-7x+32}{(x-4)(x+4)}$     C)  $\frac{x^2-7x+32}{(x-4)(x+4)(x+1)}$     D)  $\frac{x^2+7x+32}{(x-4)(x+4)(x+1)}$

59. Perform the indicated operations.  $\frac{1}{5x} - \frac{9}{10x}$     A)  $\frac{10}{-7x}$     B)  $\frac{-7}{20x}$     C) 1    D)  $\frac{-7}{10x}$

60. Graph the inequality.  $-2x - 5y \leq 10$



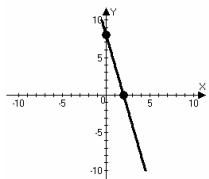
61. Graph the inequality.  $-3x - 4y \leq -12$



62. Find the quotient when  $3x^2 + 14x + 15$  is divided by  $x + 3$ .    a)  $5x + 3$     b)  $x + 5$     c)  $-3x - 5$     d)  $3x + 5$

63. For  $f(x) = 3x^2 + 14x + 15$  the parabola opens \_\_\_\_\_.    a) upward    b) to the right    c) to the left    d) downward

64. Find the slope of the line.    a) 2    b) -2    c) 4    d) -4



1	C	2	C	3	D	4	B	5	C	6	D	7	B	8	D	9	B	10	B	11	D
12	C	13	B	14	D	15	C	16	B	17	A	18	A	19	B	20	A	21	C	22	D
23	D	24	B	25	A	26	B	27	B	28	B	29	C	30	C	31	A	32	B	33	A
34	C	35	A	36	B	37	C	38	D	39	B	40	B	41	D	42	B	43	D	44	D
45	B	46	A	47	C	48	C	49	D	50	A	51	B	52	B	53	C	54	B	55	C
56	A	57	B	58	C	59	D	60	B	61	B	62	D	63	A	64	D				