Final Exam Review
Math 095

1. Evaluate 4^3
2. Calculate: $38-3\cdot 4+8$
3. Calculate: $6[1+(6^2)]$
4. Add the following: $13+[-5+(-8)]$
5. Find the sum: $2+[3+(-7)+(-2)]$
6. Subtract the following: $8-(-2)$
7. Subtract the following: $-2-(-6)$
8. Find the difference: $-4-(7-11)$
9. Multiply: $(-8)(9)$
10. Simplify the numerator and denominator separately, then find the quotient. $\dfrac{-10(-2)}{7-(-3)}$
11. Evaluate the expression if x=4, y=1, and a=-3.

    $4x-2y+5a$
12. Evaluate the expression if y=-1 and a=5.

    $-5y^2+2a$
13. Simplify the expression: $2t+4-3$
14. Simplify the expression. $-3-(4-5p)$
15. Simplify the expression and combine the like terms. $3y^2-4y^3-7y^2+6y^3$
16. Simplify the expression and combine the like terms. $-3(4y-5)+(3y+8)$
17. Solve. $5x-3=12x+11$
18. Solve. $6-2x=5x-9x+16$
19. Solve. $3(x+4)=5(x-2)$
20. Solve for x. Graph the solution.

    $7x+3<3x-9$
21. Solve. $5(5-4x)+7x<4(7+4x)$
22. Multiply. $9t^3(t-t^2+9t^3)$
23. Multiply. $(6x+7)(5x+4)$
24. Multiply. $(5t-6)(5t+6)$
25. Multiply. $(2r+3p)(2r-3p)$
26. Factor. $20x^2+5x$
27. Factor. $12t^2+4t$
28. Factor. $v^2+13v+30$
29. Factor. $r^2+3r-28$
30. Factor. $w^2-12w+35$
31. Factor. w^2-w-20
32. Factor. $4a^2+9a-28$
33. Factor. $30y^2-11y-30$

34. Factor. $15t^2+21t-18$

35. Factor. b^2-49

36. Factor. $9c^2-25$

37. Solve. $t^2-8t+12=0$

38. Solve. $a^2=32-4a$

39. Divide. $\dfrac{8x^5-24x^3+20x}{4x}$

40. Divide. $\dfrac{8x^5-4x^4+10x^2}{-2x^2}$

41. Write the expression in lowest terms.

$$\frac{7x-21}{6x-18}$$

42. Write the rational expression in lowest terms.

$$\frac{2k^2-2k}{7k-7}$$

43. Multiply and simplify. $\dfrac{5y^5}{11v^5}\cdot\dfrac{121v^7}{25y}$

44. Divide and simplify. $\dfrac{7v-49}{22}\div\dfrac{v-7}{6}$

45. Multiply. $\dfrac{7x-7}{5x+5}\cdot\dfrac{14x+14}{10x-10}$

46. Perform the indicated operation.

$$\frac{z^2-6z-16}{z^2-4z+4}\div\frac{z-8}{z-2}$$

47. Add. Express your answer in lowest terms.

$$\frac{5+5k}{4}+\frac{1+k}{8}$$

48. Add. $\dfrac{9}{x+2}+\dfrac{2}{3x}$

49. Add. Write your answer in lowest terms.

$$\frac{u}{u-3}+\frac{8}{u+3}$$

50. Solve the equation. $\dfrac{17y}{3}-\dfrac{5y}{2}=-19$

51. Solve the equation. $\dfrac{x+5}{9}=\dfrac{x-3}{8}$

52. Complete the table of values for the equation.

$$6x+5y=30$$

x	y
0	
	0
10	

53. Graph the equation by plotting points.

$$y=-x-4$$

a. Complete the ordered pairs. (-5, ___),

(-2, ___)

54. Graph the equation by plotting points.

$$y=\frac{1}{3}x-1$$

a. Complete the ordered pairs. (3, ___), (0, ___)

55. Find the x and y intercepts for the graph of the equation. $7x-3y=63$

56. Find the x and y intercepts for the graph of the equation. $x+7y=0$

57. Find the slope if it exists, of the line containing the pair of points (-9, -12) and (-18, -13).

58. Find the slope, if it exists, of the line containing the pair of points (6,4) and (7, -6)

59. Find the slope if it exists: y=-5x+6

60. Find the slope of the line 3y=x+3

61. Find $-\sqrt{\frac{16}{9}}$

62. Find the square root that is a real number.

$\sqrt{-9}$

63. Find the square root. $\sqrt{5}$

64. Classify the square root as rational, irrational, or not a real number. $\sqrt{+7}$

65. Find the root. $\sqrt[3]{27}$

66. Simplify $\sqrt[3]{-27}$

67. Simplify. $\sqrt{45}$

68. Simplify. $\sqrt{20}$

69. Simplify. $\sqrt{64x^8y^{18}}$

70. Simplify. $\sqrt{\frac{x^8}{y^6}}$

71. Subtract. $5\sqrt{3}-3\sqrt{3}$

72. Add or subtract. $3\sqrt{20}+\sqrt{45}-\sqrt{125}$

73. Multiply. $(2\sqrt{7}-4\sqrt{5})(5\sqrt{7}+10\sqrt{5})$

74. Multiply. $(\sqrt{6}-\sqrt{3})(\sqrt{6}+\sqrt{3})$

75. Divide and simplify. $\frac{\sqrt{490}}{\sqrt{10}}$

76. Simplify $\frac{6\sqrt{33}}{3\sqrt{11}}$

77. Simplify $\frac{12+4\sqrt{3}}{4}$

78. Simplify $\frac{15+\sqrt{18}}{3}$