Math 0987 Final Exam Review

The Final Exam will be 40 multiple choice questions. You should bring your graphing calculator to the exam.

- The price of an item has been reduced by 25%. The original price was \$55. Find the price of the item now.
 - A. \$13.75
 - B. \$41.25
 - C. \$30.00
 - D. \$27.50
- 2. Evaluate. $79 14(6 5)^2 + 2^3$
 - A. 37
 - B. 57
 - C. 71
 - D. 73
- 3. Evaluate the expression when m = -2.

 $m^2 - 6m - 8$

- A. -24
- B. 0
- C. 8
- D. -16
- 4. Find the slope and the y-intercept of the line. y = 8x - 3

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- A. Slope is -8, y-intercept is 3
- B. Slope is 8, y-intercept is -3
- C. Slope is 8, y-intercept is 3
- D. Slope is -8, y-intercept is -3
- 5. Find the least common multiple (LCM) of 6 and 15.
 - A. 6
 - B. 15
 - C. 30
 - D. 90

6. Find the equation of the line below.

2015 - 2016



- A. y = 2x 6B. y = -2xC. y = -2x - 6D. y = 2x
- 7. Fill in the blank to make the two fractions equivalent. $\frac{1}{16} = \frac{5}{2}$
 - A. 8
 - B. 10
 - C. 40
 - D. 45
- 8. Divide. Write your answer in simplest form.
 - $\frac{18}{5} \div \frac{3}{35}$ A. $\frac{126}{3}$ B. 42
 C. $\frac{54}{175}$ D. 30

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- 9. Evaluate $9 \div 0$.
 - A. 9
 - B. 0
 - C. Undefined
 - D. $\frac{0}{9}$
- 10. Solve the following proportion for *y*. Round your answer to the nearest tenth.
 - $\frac{23}{5} = \frac{y}{9}$ A. y = 12.8B. y = 41.4
 - C. y = 0.5
 - D. y = 12.7
- 11. Round 357.347 to the nearest tenth.
 - A. 357.3
 - B. 357.34
 - C. 357.35
 - D. 357.4
- 12. The graph below shows the number of visitors at a museum over six days. When did the number of visitors have the greatest decrease?



- A. Thursday to Friday
- B. Friday to Saturday
- C. Saturday to Sunday
- D. Sunday to Monday

- 2015 2016
- 13. Referring to the graph in #12, what was the greatest number of visitors for the six days?
 - A. 370
 - B. 380
 - C. 400
 - D. 405
- 14. Find the perimeter of the rectangle.



- A. 192 cm²
- B. 28 cm
- C. 56 cm
- D. 56 cm²
- 15. Find the area of the rectangle.

12 cm 16 cm

- A. 192 cm²
- B. 28 cm
- C. 56 cm
- D. 56 cm²

16. Find the area of the triangle.



- 17. 33 is what percent of 44?
 - A. 75%
 - B. 133%
 - C. 15%
 - D. 85%
- 18. Find the perimeter of the triangle.



- B. 210 ft²
- C. 70 ft²
- D. 70 ft
- 19. Write the decimal 1.2 as a percentage.
 - A. 1.2%
 - B. 12%
 - C. 120%
 - D. 1200%
- 20. Write the percentage 45% as a decimal.
 - A. 0.45
 - B. 0.045
 - C. 0.0045
 - D. 4.5
- 21. Find an equation for the line in slope-intercept form that passes through the points (3, -5) and (-4, 2).
 - A. y = −x − 2
 - B. y = x + 2
 - C. y = -x + 2
 - D. y = -2x + 1

22. Find the area of a circle with radius 8 m. Use the value of 3.14 for π , and do not round your answers.



- D. 200.96 m²
- 23. Find the circumference of a circle with radius 8 m. Use the value of 3.14 for π , and do not round your answers.



- 24. Simplify completely. 10c 6c
 - A. 16c
 - B. 16c²
 - C. 4c²
 - D. 4c

25. Solve for x. 22 = 7 + 3x

- A. x = -10
- B. x = 10
- C. x = 5
- D. x = -5

26. Find the y-intercept and the x-intercept of the line below.



- A. x-intercept is -1; y-intercept is 2
- B. x-intercept is 1; y-intercept is 2
- C. x-intercept is -1; y-intercept is -2
- D. x-intercept is 1; y-intercept is -2
- 27. Simplify completely. 3(5v + 2) 13
 - A. 15v 7
 - B. 15v + 7
 - C. 21v 13
 - D. 15v 11
- 28. Solve for y. Simplify the answer as much as possible. $\frac{14}{5} = 2y$

A.	$\frac{14}{10}$
В.	25 5
C.	7 5
D.	5 7

- 29. Find an ordered pair (x, y) that is NOT a solution to the equation. 2x - 6y = 6
 - A. (0, -1)
 - B. (0, 1)
 - C. (3, 0)
 - D. (6, 1)

30. Solve for w. 63 = 4w - 8w - 15

A. w = -19.5
B. w = -12
C. w = 12
D. w = 19.5

31. Solve for x. 9(x-2) = 3x - 42

- A. x = -10
 B. x = -4
 C. x = -2
 D. x = 4
- 32. Translate this phrase into an algebraic expression. Use the variable g to represent Greg's age.

64 more than twice Greg's age

- A. -64 –2g
- B. 2g 64
- C. -2g + 64
- D. 2g + 64
- 33. Find the value of *x*.



- A. 149°
- B. 89°
- C. 211°
- D. 31°
- 34. The price of an item yesterday was \$200. Today, the price rose to \$300. Find the percentage increase.
 - A. 50%
 - B. 100%
 - C. 200%
 - D. 500%

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35. Subtract. - 20 - 46

- A. -66
- B. -26
- C. 26
- D. 66
- 36. Evaluate the following expression. $[(11 + 24) \div 7 1] * 8$
 - A. -48
 - B. 5
 - C. 32
 - D. 56
- Write an inequality to represent the situation below. Use h to represent the height (in inches) of a visitor able to ride.

To ride a roller coaster, a visitor must be at least 52 inches tall.

- A. h > 52
- B. h≥52
- C. h < 52
- D. h≤52
- Give the location of Denver as an ordered pair. (x,y).



- A. (3, -6)
- B. (6, -3)
- C. (-6, 3)
- D. (-3, 6)



40. Solve the following system for y.

2x - 7 = y3x + 4y = 5

- A. -1 B. 3 C. $\frac{13}{5}$ D. 5
- 41. Determine which of the following is a solution
 - to -8 = 8(u 9). A. u = 0
 - B. u = -8
 - C. u = 8
 - D. u = 10

- 42. Use a calculator to approximate $\sqrt{42}$. Round your answer to the nearest hundredth.
 - A. 6.5
 - B. 6.48
 - C. 6.49
 - D. 6.481
- 43. Graph the line y = 3x 8.



44. Find the x-intercept and y-intercept of the line

2x - 4y = 8

- A. x-intercept is 2; y-intercept is -2
- B. x-intercept is 4; y-intercept is 2
- C. x-intercept is -2; y-intercept is 2
- D. x-intercept is 4; y-intercept is -2

- 45. The signal from a certain satellite takes approximately 6.1 * 10⁻² seconds to reach Earth. Write this number in standard notation.
 - A. 6.1
 - B. 0.061
 - C. 0.0061
 - D. 0.00061
- 46. Teresa can choose Plan A or Plan B for her long distance charges. For each plan, cost (in dollars) depends on minutes used (per month) as shown below.

If Teresa makes 250 minutes of long distance calls per month, which plan costs less?



- A. Plan A
- B. Plan B
- C. They cost the same amount.
- 47. The total surface area of North America is approximately 9,540,000 square miles. Write this number in scientific notation.
 - A. 9.5 m²
 - B. $9.5 \times 10^{-6} \text{ m}^2$
 - $C. \quad 954\times 10^4 \ m^2$
 - $D. \quad 9.54\times 10^6\,m^2$

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48. Multiply. Write your answer as a fraction in simplest form.

 $2^* \frac{4}{5}$



- 6 8 D.
- 49. A line passes through the point (-2, -7) and has a slope of -3. Write the equation in slopeintercept form for this line.
 - A. y = -3x 13B. y = 3x + 13C. y = -3x + 13D. y = -3x - 23

50. Rewrite $\frac{1}{10,000}$ as a power of 10.

- A. 10⁴
- B. 10⁻⁴
- C. 10⁵
- D. 10⁻⁵
- 51. A sofa is on sale for \$208, which is 65% of the regular price. What is the regular price?
 - A. \$320.00
 - B. \$594.29
 - C. \$135.20
 - D. \$72.80

52. Find the reciprocal of 4.

A. 4 B. -4 Β. C. $-\frac{1}{4}$ C. D. $\frac{1}{4}$

53. Graph the line with slope 3 and y-intercept -1.



54. For the following right triangle, find the side length *x*. Round your answer to the nearest hundredth.



- A. 18.44
- 7.21
- 2.00
- D. 13.00



56. Find the length of *x*. Round your answer to the nearest tenth.



- A. 3.5
- B. 5.1
- C. 7.0
- D. 1.8

57. A 9-ft tall building casts a shadow. The distance from the top of the building to the tip of the shadow is 12 ft. Find the length of the shadow. If necessary, round your answer to the nearest tenth.





58. In a poll, students were asked to choose which of six colors was their favorite. The circle graph shows how the students answered. If 10,500 students participated in the poll, how many chose Blue?



A. 27
B.
$$-\frac{1}{27}$$

D.
$$\frac{1}{27}$$

- 60. For the system of equations, determine which value is a solution.
 - 5x 3y = 8y = 4x + 2
 - A. (2,6)
 - B. (-2, -6)
 - C. (1, 6) D. (-1, -4)
- 61. The table gives the temperature (in °F) in four cities at 6 a.m. on the same day. Use the table to answer questions 61 and 62.

City	Temperature (° F)
Montreal	-18
St. Louis	38
Milwaukee	-9
Juneau	-26

How much higher was the 6 a.m. temperature in St. Louis than in Montreal?

- A. 56 degrees
- B. 20 degrees
- C. -20 degrees
- D. -56 degrees
- 62. Referring to the table in #61, if the temperature in Juneau rises 19° in 5 hours, what would be the temperature at 11 a.m.?
 - A. 7 degrees
 - B. -7 degrees
 - C. 45 degrees
 - D. 11 degrees

- 63. 12 is 15% of what number?
 - A. 1.80
 - B. 80.00
 - C. 180.00
 - D. 1.25
- 64. Translate this phrase into an algebraic expression.

11 less than twice a number.

Use the variable n to represent the unknown number.

- A. 11*2n
- B. 2n*11
- C. 11 2n
- D. 2n 11

65. Evaluate $\frac{6(13-8)}{2+5^2-12}$

Α.	2.0

- B. 2.8
- C. 28
- D. 4.7
- 66. Evaluate 10⁻⁷.
 - A. 10,000,000
 - B. -10,000,000

C.
$$\frac{-1}{10,000,000}$$

D. $\frac{1}{10,000,000}$

67. Evaluate

- A. 35
- B. 98
- C. 29
- D. 15

68. Evaluate. 50 \div 5² * 5

- B. $\frac{2}{5}$
- C. 500
- D. 10
- 69. For the following system of equations, classify the system. Then, identify its solutions.

$$L1: y = \frac{-1}{4}x + 2$$



- A. consistent independent; (0, 2)
- B. consistent dependent ; infinitely many solutions
- C. inconsistent; no solution
- 70. Write the fraction $\frac{24}{32}$ in simplest form.
 - A. $\frac{24}{32}$ B. $\frac{4}{5}$ C. $\frac{12}{16}$ D. $\frac{3}{4}$

71. Divide. $11.5 \div 100.$ A. 1.15B. 0.115C. 115D. 1150

- 72. Evaluate. -2 * (-6)
 - A. -12
 - B. 12
 - C. -8
 - D. 8
- 73. Graph the line with slope 3 and y-intercept -2.









74. Rachel bought a suit on sale for \$536. This price was 67% off the original price. What was the original price?

Α.	\$800.00
В.	\$359.12
C	¢1621 21

- C. \$1624.24
- D. \$895.12

75. The figure below shows a rectangular lawn. The lawn will be mowed. Which measure would be used in finding how long it will take?



- A. circumference
- B. area
- C. perimeter
- D. volume

76. Multiply. 2*4u

- A. 6u
- B. 6u²
- C. 8u
- D. 8u²
- 77. Use the distributive property to remove the parentheses. 7(u-3)
 - A. 7u 3B. u - 21C. 7u - 21D. u - 3

78. Solve for *v*. $\frac{-v}{9} = -51$

A.
$$v = -459$$

B. $v = \frac{51}{9}$
C. $v = \frac{-51}{9}$
D. $v = 459$

- 79. Translate the phrase into an algebraic expression.
 - The quotient of c and 9
 - A. c9
 - B. c+9
 - C. $\frac{c}{9}$
 - D. c-9
- 80. Omar deposits \$800 into an account that pays simple interest at a rate of 5% per year. How much interest will he be paid in the first 3 years?
 - A. \$8
 - B. \$5
 - C. \$40
 - D. \$120
- 81. The sets *E* and *M* are given below.

 $E = \{-2, 1, 3, 4, 5, 7\}$ $M = \{1, 2, 5, 6, 7, 8\}$

Find the intersection of E and M. Write your answers using set notation.

A. {1, 2, 5, 7}
B. {-2, 1, 2, 3, 4, 5, 6, 7, 8}
C. {-2, 3, 4, 6, 8}
D. {1, 5, 7}

82. The sets *E* and *M* are given below.

 $E = \{-2, 1, 3, 4, 5, 7\}$ $M = \{1, 2, 5, 6, 7, 8\}$

Find the union of *E* and *M*. Write your answers using set notation.

A. {1, 2, 5, 7}
B. {-2, 1, 2, 3, 4, 5, 6, 7, 8}
C. {-2, 3, 4, 6, 8}
D. {1, 5, 7}



- D. 12
- 84. Write an equation in slope-intercept form for the line with slope $-\frac{3}{4}$ and y-intercept -3.
 - A. $y = -3x \frac{3}{4}$ B. y = -3xC. $y = -\frac{3}{4}$ D. $y = -\frac{3}{4}x - 3$
- 85. What number is 25% of 72?
 - A. 18
 - B. 288
 - C. 54
 - D. 96
- 86. Translate this sentence into an equation.

44 is the difference of Rhonda's age and 9.

Use the variable r to represent Rhonda's age.

- A. 44 = 9 rB. 44 = r - 9C. 44−r−9 D. 44 – 9r
- 87. Translate the phrase into an algebraic expression. *x* divided by 5
 - A. $\frac{5}{x}$

 - $\frac{5x}{1}$ Β.
 - $\frac{1}{5x}$ C.

 - D. $\frac{x}{5}$

88. Solve for y. 90 = 5y + 15

A. y = 3 B. y = 21 C. y = 15 D. y = -15

89. Solve for *w*. $\frac{w}{2} = 28$

- A. w = 14B. w = 56C. w = 26
- D. w = 30

90. Simplify. -2(w + 3) + 6w

- A. 4w + 3
- B. 8w-6
- C. 7w-3
- D. 4w 6
- 91. Use the distributive property to remove the parentheses. $-5(-3w^3 + 1 - y^2)$
 - A. $15w^3 5 + 5y^2$
 - B. $-15w^3 5 + 5v^2$
 - C. $15w^3 + 5 + 5y^2$
 - D. $-15w^3 5 5v^2$
- 92. Use the distributive property to remove the parentheses. (x - 8)4
 - A. 4x 32 B. x−32 C. 4x−8 D. x - 84
- 93. Evaluate. 18÷ (−9)
 - A. $-\frac{1}{2}$ B. −2 C. 2
 - D. -9
- 94. Simplify. 5v + 2v
 - A. 10v²
 - B. 7v²
 - C. 7v
 - D. 10v

- 95. Evaluate the following expression. $\frac{0}{9}$
 - A. 0
 - B. undefined
 - C. 9
 - D. 1

96. Subtract. -1-(-11).

- A. -12
- B. 10
- C. 12
- D. -10
- 97. Find the area of this square.



- C. 18 ft²
- D. 36 ft²
- 98. Find the perimeter of the following polygon



99. Multiply. 1000 × 0.28

Α.	2.8
Β.	28.0
C.	280.0
D.	2800.0

- 100. Give the digit in the tens place. 57.63
 - A. 5
 - B. 7
 - C. 6
 - D. 3
- Calculate $(6.6 \times 10^3)(7 \times 10^{-9})$. Write 101. your answer in scientific notation.
 - A. 46.2×10^{-6}
 - B. 462×10^{-7}
 - C. $.462 \times 10^{-4}$
 - D. 4.62×10^{-5}
- Calculate $\frac{7.2 \times 10^{-4}}{8 \times 10^{7}}$. Write your answer 102.

in scientific notation.

- A. 0.9×10^{-11}
- B. 0.9×10^3
- C. 9×10^{-3}
- D. 9×10^{-12}
- 103. Multiply. Write your answer as a fraction in simplest form.

$$\frac{4}{3} \times \frac{11}{7}$$



104. Divide. Write your answer in simplest form.

$$3 \div \frac{3}{7}$$

A. 7

Math 0987 Final Exam Review Answer Key

With Pie Slice (Module)

- 1. B Linear Equations and Inequalities (M7)
- 2. D Arithmetic Readiness (M1)
- 3. C Real Numbers and Algebraic Expressions (M4)
- 4. B Lines and Functions (M9)
- 5. C Arithmetic Readiness (M2)
- 6. D Lines and Functions (M9)
- 7. C Arithmetic Readiness (M2)
- 8. B Arithmetic Readiness (M2)
- 9. C Real Numbers and Algebraic Expressions (M1)
- 10. B Linear Equations and Inequalities (M5)
- 11. A Arithmetic Readiness (M3)
- 12. D Arithmetic Readiness (M8)
- 13. D Arithmetic Readiness (M8)
- 14. C Arithmetic Readiness (M6)
- 15. A Arithmetic Readiness (M6)
- 16. B Arithmetic Readiness (M6)
- 17. A Linear Equations and Inequalities (M7)
- 18. D Arithmetic Readiness (M6)
- 19. C Arithmetic Readiness (M3)
- 20. A Linear Equations and Inequalities (M3)
- 21. A Lines and Functions (M9)
- 22. D Arithmetic Readiness (M7)
- 23. C Arithmetic Readiness (M7)
- 24. D Real Numbers and Algebraic Expressions(M4)
- 25. C Linear Equations and Inequalities (M5)
- 26. C Lines and Functions (M9)
- 27. A Real Numbers and Algebraic Expressions(M4)
- 28. C Linear Equations and Inequalities(M4)
- 29. B Lines and Functions (M8)
- 30. A Linear Equations and Inequalities (M5)
- 31. B Linear Equations and Inequalities (M5)
- 32. D –Linear Equations and Inequalities (M6)
- 33. D Linear Equations and Inequalities (M6)
- 34. A Linear Equations and Inequalities (M7)
- 35. A Real Numbers and Algebraic Expressions (M1)
- 36. C Arithmetic Readiness (M1)
- 37. B Linear Equations and Inequalities (M7)
- 38. C Lines and Functions (M8)
- 39. A Lines and Functions (M8)
- 40. A Systems of Equations (M10)
- 41. C Linear Equations and Inequalities (M5)
- 42. B Real Numbers and Algebraic Expressions (M3)
- 43. B Lines and Functions (M8)
- 44. D Lines and Functions (M9)
- 45. B Exponents and Polynomials (M10)
- 46. B Systems of Equations (M10)
- 47. D Exponents and Polynomials (M10)
- 48. A Arithmetic Readiness (M2)
- 49. A Linear Equations and Inequalities (M9)
- 50. B Exponents and Polynomials (M10)
- 51. A Linear Equations and Inequalities (M7)

- 52. D Arithmetic Readiness (M2)
- 53. B Lines and Functions (M9)
- 54. B Exponents and Polynomials (M7)
- 55. C Lines and Functions (M8)
- 56. C Rational Expressions (M7)
- 57. C Exponents and Polynomials (M7)
- 58. A Linear Equations and Inequalities (M7)
- 59. C Arithmetic Readiness (M1)
- 60. B Systems of Equations (M10)
- 61. A Real Numbers and Algebraic Expressions (M1)
- 62. B Real Numbers and Algebraic Expressions (M1)
- 63. B Linear Equations and Inequalities (M7)
- 64. D Linear Equations and Inequalities (M6)
- 65. A Arithmetic Readiness (M1)
- 66. D Exponents and Polynomials (M10)
- 67. A Arithmetic Readiness (M1)
- 68. D Arithmetic Readiness (M1)
- 69. B Systems of Equations (M10)
- 70. D Arithmetic Readiness (M2)
- 71. B Arithmetic Readiness (M3)
- 72. B Real Numbers and Algebraic Expressions (M1)
- 73. B Lines and Functions (M9)
- 74. C Linear Equations and Inequalities (M7)
- 75. B Arithmetic Readiness (M6)
- 76. C Real Numbers and Algebraic Expressions (M4)
- 77. C Real Numbers and Algebraic Expressions (M4)
- 78. D Linear Equations and Inequalities(M4)
- 79. C Linear Equations and Inequalities (M6)
- 80. D Linear Equations and Inequalities (M7)
- 81. D Linear Equations and Inequalities (M8)
- 82. B Linear Equations and Inequalities (M8)
- 83. D Rational Expressions (M7)
- 84. D Lines and Functions (M9)

97. B – Arithmetic Readiness (M6)

98. C – Arithmetic Readiness (M6)

99. C – Arithmetic Readiness (M3)

100.A – Arithmetic Readiness (M3)

101.D - Rational Expressions (M10)

102.D - Rational Expressions (M10)

103.A – Arithmetic Readiness (M2)

104.A – Arithmetic Readiness (M2)

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- 85. A Linear Equations and Inequalities (M7)
- 86. B Linear Equations and Inequalities (M6)
- 87. D Linear Equations and Inequalities (M6)
- 88. C Linear Equations and Inequalities (M5)
- 89. B Linear Equations and Inequalities (M4)
- 90. D Real Numbers and Algebraic Expressions(M4)
- 91. A Real Numbers and Algebraic Expressions (M4)
- 92. A Real Numbers and Algebraic Expressions (M4)
- 93. B Real Numbers and Algebraic Expressions (M4)
- 94. C Real Numbers and Algebraic Expressions (M4)
- 95. A Real Numbers and Algebraic Expressions (M1)
- 96. B Real Numbers and Algebraic Expressions (M1)

By Module

- Module 1: 2, 9, 35, 36, 59, 61, 62, 65, 67, 68, 72, 95, 96
- Module 2: 5, 7, 8, 48, 52, 70, 103, 104
- Module 3: 11, 19, 20, 42, 71, 99, 100
- Module 4: 3, 24, 27, 28, 76, 77, 78, 89, 90, 91, 92, 93, 94
- Module 5: 10, 25, 30, 31, 41, 88
- Module 6: 14, 15, 16, 18, 32, 33, 64, 75, 79, 86, 87, 97, 98
- Module 7: 1, 17, 22, 23, 34, 37, 51, 54, 56, 57, 58, 63, 74, 80, 83, 85
- Module 8: 12, 13, 29, 38, 39, 43, 55, 81, 82
- Module 9: 4, 6, 21, 26, 44, 49, 53, 73, 84
- Module 10: 40, 45, 46, 47, 50, 60, 66, 69, 101, 102