

SAMPLE FINAL

Houston Community College System

Fundamentals of Mathematics I

Math 0306

FINAL EXAMINATION



FORM A — 6041

INSTRUCTIONS: Do not write on this examination. This examination consists of fifty (50) multiple choice problems. There is only one answer to each problem. Each problem is worth two (2) points. Do your work on separate sheets of paper. Indicate your answer (use pencil only) on your scantron sheet. Upon completion of this examination, turn it in along with your answer sheet and scratch work.

DIRECTIONS FOR ANSWERING QUESTIONS

Each of the questions in this test is followed by four suggested answers. Read each problem and decide which **ONE** of the suggested answers is correct. After you have found your answer to a problem, find the same letter after the corresponding problem number on your answer sheet. Darken or bubble the space that contains your answer choice. Look at the example problem below.

EXAMPLE: 7. Simplify.

$$100 - 10 + 6$$

- A. 206
- B. 116
- C. 104
- D. 96

The correct answer to example problem 7 is **D**. Find problem 7 on your answer sheet. Letter **d** should be darkened or bubbled completely on your answer sheet. Darken only **ONE** letter for each corresponding problem. If you change an answer, be sure to erase your first answer completely. Do not make any stray marks on your answer sheet.

1. Which of the following statements represents 7, 529, 816, 104?

- A. seven zillion, five hundred twenty nine million, eight hundred sixteen thousand, one hundred four
- B. seven billion, five hundred twenty nine million, eight hundred sixteen thousand, one hundred four
- C. seven million, five hundred twenty nine billion, eight hundred sixteen thousand, one hundred four
- D. seven hundred thousand, five hundred twenty nine million, eight hundred sixteen thousand, one hundred four

2. Write the expanded notation for 8,052.

- A. 8 thousands + 5 hundreds + 2 tens
- B. 8 thousands + 5 hundreds + 2 ones
- C. 8 thousands + 5 tens + 2 ones
- D. 8 hundreds + 5 tens + 2 ones

3. Add:

$$\begin{array}{r} 5364 \\ +4225 \\ \hline \end{array}$$

- A. 9,589
- B. 7,439
- C. 3,559
- D. 1,139

4. Subtract:

$$\begin{array}{r} 9498 \\ -6581 \\ \hline \end{array}$$

- A. 16,079
- B. 11,076
- C. 2,917
- D. 929

5. Multiply: 432×46

- A. 27,642
- B. 19,872
- C. 12,672
- D. 11,462

6. Divide: $6709 \div 38$

- A. 174 R 19
- B. 175 R 20
- C. 176 R 21
- D. 177 R 22

7. The math club has 308 members that are to be put into 11 equal groups. How many members will be in each group?

- A. 22
- B. 24
- C. 26
- D. 28

8. Which of the following is a **true** statement?

- A. $|-19| \geq 20$
- B. $72 \leq -379$
- C. $-2 > -926$
- D. $82 > -(-82)$

9. Add: $21 + 6.1 + (-40) + (-14.2)$

- A. -27.1
- B. -35.9
- C. -48.9
- D. -77.3

10. Subtract. $11 - (-22)$

- A. -13
- B. -5
- C. 5
- D. 33

11. Multiply. $(-8)(6)(-10)(7)$

- A. -2,520
- B. -2,020
- C. 3,360
- D. 720

12. Solve for x. $9179 = x + 8484$

- A. -686
- B. -672
- C. 686
- D. 695

13. Simplify the following expression.

$$1 + 8^2 \div (10 - 9 + 1)^3 \cdot 3 - 6$$

- A. 27.5 B. 19.0 C. 10.5 D. -16.0

14. Find the prime factorization of 90.

- A. $2 \cdot 3 \cdot 5$ B. $2^2 \cdot 3 \cdot 5$ C. $2 \cdot 3 \cdot 5^2$ D. $2 \cdot 3^2 \cdot 5$

15. Which of the following numbers is divisible by 3?

- A. 1,111,111 B. 111,111 C. 11,111 D. 1,111

16. Reduce the following fraction to lowest terms: $\frac{30}{102}$

- A. $3\frac{2}{10}$ B. $2\frac{2}{17}$ C. $\frac{5}{17}$ D. $\frac{5}{34}$

17. Add and reduce your answer to lowest terms.

$$\frac{7}{8} + \frac{5}{12} + \frac{3}{9}$$

- A. $\frac{15}{29}$ B. $\frac{36}{67}$ C. $1\frac{7}{29}$ D. $1\frac{5}{8}$

18. Subtract and reduce your answer to lowest terms.

$$7\frac{3}{16} - 5\frac{6}{12}$$

- A. $2\frac{3}{4}$ B. $1\frac{1}{4}$ C. $1\frac{11}{16}$ D. $\frac{16}{27}$

19. Add and reduce your answer to lowest terms.

$$20\frac{1}{8} + 15\frac{1}{8}$$

- A. 5 B. $4\frac{5}{8}$ C. $35\frac{1}{8}$ D. $35\frac{1}{4}$

20. Multiply and reduce your answer to lowest terms.

$$6\frac{1}{4} \cdot 10\frac{1}{3}$$

- A. $20\frac{1}{12}$ B. $50\frac{1}{12}$ C. $60\frac{1}{12}$ D. $64\frac{7}{12}$

21. Divide and reduce your answer to lowest terms.

$$\frac{3}{16} \div 4\frac{1}{5}$$

- A. $\frac{1}{22}$ B. $\frac{5}{112}$ C. $1\frac{1}{5}$ D. $4\frac{3}{5}$

22. Write 85.79 in improper fractional notation.

- A. $\frac{8579}{1000}$ B. $\frac{8579}{100}$ C. $85\frac{78}{100}$ D. $850\frac{78}{10}$

23. Write the decimal notation for $\frac{483}{1000}$.

- A. 48.3 B. 4.83 C. 0.483 D. 0.0483

24. Round 8.365 to the nearest hundredth.

- A. 8.36 B. 8.37 C. 8.38 D. 8.30

25. Add. $81.5 + 1.45 + 178 + 1.0057$

- A. 261.9557 B. 251.9667 C. 136.6957 D. 128.8957

26. Subtract. $24.07 - 21.996$

- A. 3.186 B. 3.184 C. 2.084 D. 2.074

27. Trish saved \$925.00 for her vacation. When she returned home from her vacation, she had \$173.72. How much money did Trish spend on her vacation?

- A. \$762.48 B. \$873.38 C. \$751.28 D. \$746.18

28. Multiply. 5.4×3.89

- A. 38.040 B. 21.006 C. 23.440 D. 24.784

29. Divide. $240.16 \div 31.6$

- A. 3.460 B. 7.600 C. 8.046 D. 43.000

30. Find the decimal notation for $\frac{88}{34}$.

- A. 2.5882 B. 2.5762 C. 2.5342 D. 2.5332

31. Which is closest to the average of the following numbers.

14, 14, 3, 9, 12, 4

- A. 9 B. 9.3 C. 7 D. 6.7

32. Find the median of the following numbers: 7, 12, 30, 8

- A. 14.25 B. 10.00 C. 16.50 D. 30.00

33. Find the mode of the following numbers: 9, 13, 15, 9, 13, 15, 9

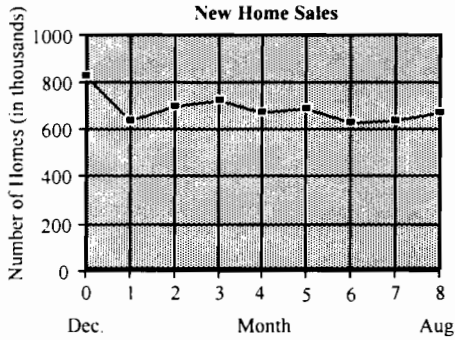
- A. no mode B. 9 C. 13 D. 15

34. The following reflect the temperature on the 4th of July over the past five years. What was the average temperature over the five year period?

93 °F, 98 °F, 92 °F, 86 °F, 96 °F

- A. 91.5 °F B. 92.5 °F C. 93.0 °F D. 94.0 °F

35. The following graph shows the number of new home sales, in thousands, over a recent twelve-month period. Use the graph to answer the question that follows.



Between which two months did the greatest decrease occur?

- A. May and June B. March and April C. December and January D. January and February
36. Solve for x . $\frac{6x}{7} = \frac{48}{10}$

- A. $x = 2.857$ B. $x = 4\frac{1}{7}$ C. $x = 5\frac{3}{5}$ D. $x = 8.75$

37. A vehicle travels 203.19 miles on 13 gallons of gas. How many miles per gallon does the vehicle get?

- A. 11.33 B. 12.43 C. 13.53 D. 15.63

38. Rosa bought 7 tickets to an international food festival for \$80. How many tickets could she purchase with \$160?

- A. 13 tickets B. 14 tickets C. 15 tickets D. 16 tickets

39. Find the decimal notation for 78,43%.

- A. 78.43 B. 7.843 C. 0.7843 D. 0.07843

40. Find the decimal notation for $\frac{1200}{3200}$.

- A. 0.00375 B. 0.0375 C. 0.375 D. 3.75

41. Find the percent notation for $\frac{7}{16}$.

- A. 23.75% B. 27.50% C. 35.75% D. 43.75%

42. Food expenses take 20% of the average family income. If the average family makes \$2200.00 per month, how much is spent on food?
- A. \$460.00 B. \$440.00 C. \$420.00 D. \$400.00
43. An electric bill for last year was \$150.00. The bill increased to \$175.00 this year. What is the percent of increase accurate to the nearest tenth?
- A. 2.5% B. 6.5% C. 12.6% D. 16.7%
44. If there is a \$30.00 sales tax on a bed that costs \$600, what is the sales tax rate?
- A. 4.5 % B. 5.2 % C. 6.5 % D. 5.0 %
45. Suppose that a desk originally marked \$1500.00 is on sale at 15% off. What is the discount?
- A. \$240.00 B. \$235.00 C. \$225.00 D. \$200.00
46. Find the total amount in an account if \$3000.00 is invested for 4 years at a simple interest rate of 10%.
- A. \$1200.00 B. \$3400.00 C. \$3600.00 D. \$4200.00
47. Simplify using the order of operations: $8^2 + 20 \cdot 4 - (30 + 9 \cdot 2)$
- A. 74 B. 83 C. 96 D. 107
48. Evaluate $\frac{9C}{5} + 32$ for $C = 10$.
- A. 32 B. 50 C. 68 D. 126
49. Which of the following is true about whole numbers u , v , and w ?
- A. $u - v = v - u$ B. $u + v = v + u$ C. $u/w = w/u$ D. $u \cdot v = v \cdot w$
50. Which of the following is a true statement?
- A. 398% is greater than 26. B. A real number cannot be divided by zero.
C. -456 is greater than 2. D. All integers are negative.