

## STUDENT GUIDE TO THE FEDERAL WAY MATH COMPETENCY TEST

As a student in the Federal Way School district, you will be taking the Federal Way Math Competency Test each year in grades 9 through 11. If necessary, you will have up to three chances to pass the test during the 12<sup>th</sup> grade. In order to receive a regular high school diploma, you must pass this test by the end of the 12<sup>th</sup> grade, so it is important for you to understand what the test covers and how to be prepared to do well on it. This brochure answers some of the questions that you might have concerning this important test.

### WHY IS THERE A MATH COMPETENCY TEST?

The Math Competency Test is the result of a school board policy that is intended to improve the math skills of graduates of the Federal Way schools. The district requires that all students who are enrolled in general education classes score at least 75% on this test of basic math skills by the end of the 12<sup>th</sup> grade. The schools are required to provide help to students who have difficulty passing the test. STUDENTS WHO DO NOT PASS THE TEST WILL NOT RECEIVE HIGH SCHOOL DIPLOMAS.

### WHERE CAN I FIND HELP?

If you failed, or nearly failed the test in grade 9 or grade 10, then you need to improve your skills. There are several ways to do this in high school through course work or individual work, including the following:

#### ACCELERATED MATH

If you are a senior and you failed the competency test, it is highly recommended that you take this one semester course. This is an individualized course that is aimed directly at the skills on the test. Due to small class size, the teachers are able to give a great deal of individual attention to students.

#### MATH FUNDAMENTALS

If your test score was below 50%, this course is recommended. It includes review of the skills you need to pass the test and other practical topics in mathematics.

#### MATH MATTERS 1/2

If your test score was above 50%, this course offers review of basic skills coupled with many everyday practical applications.

#### INDEPENDENT STUDY PACKETS

If you do not want to take any of the courses listed above, but need help with particular skills, you may contact Mrs. Hoff in the I building and get packets of practice problems with answers. She will also give you some help if you need it, so don't hesitate to ask.

### HOW CAN I DO MY BEST ON THE TEST?

There are several things that you can do to avoid needless errors and increase your chances of passing the test:

**BE WELL RESTED:** Get a good night's rest before the test, and eat breakfast the morning of the test.

**WORK NEATLY:** Write the problem number near your scratch work. Keep columns in line. Be very careful with decimal points. Ask yourself if the answer seems reasonable.

#### MARK ANSWER

**SHEET CAREFULLY:** Make certain that the problem numbers and the answer sheet numbers match. Make solid, neat marks on the answer sheet.

**SKIP HARD PROBLEMS AND RETURN TO THEM LATER:**

Don't take too much time on one problem. Be sure to complete all the problems that you know how to do before the time is up.

**ANSWER EVERY PROBLEM:**

Make a reasonable guess on any problem that you do not have time to do, or do not know how to do. There is no penalty for guessing.

**WHAT DOES THE TEST COVER?**

The Math Competency Test is a 40 problem, multiple choice test. It tests skills from the basic operations with whole numbers, fractions and decimals, percent problems, ratio and proportion, measurements, estimations, and applications to word problems. Each Accelerated Math teacher has a list of the objectives that are tested and will show these to you on request. Below are some problems like those on the test. Try them for practice.

1. 
$$\begin{array}{r} 2,654 \\ 408 \\ 36 \\ + 567 \\ \hline \end{array}$$

2.  $3,260 + 349 + 815 =$

3.  $605 + 1,398 + 271 =$

- A) 3,645
- B) 3,665
- C) 3,565
- D) 2,645
- E) None of the above

- F) 3,424
- G) 3,514
- H) 4,424
- J) 4,414
- K) None of the above

- A) 2,274
- B) 2,173
- C) 2,264
- D) 1,974
- E) None of the above

4.  $30,000 - 8,128 =$

5.  $50,000 - 10,421 =$

6. By how much is 4936 greater than 2615?

- F) 32,872
- G) 32,128
- H) 31,128
- J) 31,872
- K) None of the above

- A) 40,579
- B) 39,421
- C) 40,421
- D) 40,679
- E) None of the above

- F) 2,321
- G) 1,379
- H) 2,521
- J) 2,379
- K) None of the above

7.  $46 \times 708 =$

8.  $107 \times 57 =$

9. Multiply: 
$$\begin{array}{r} 6208 \\ \underline{412} \end{array}$$

- A) 32,562
- B) 31,362
- C) 22,568
- D) 32,568
- E) None of the above

- F) 6,109
- G) 6,089
- H) 6,099
- J) 7,099
- K) None of the above

- A) 257,696
- B) 25,568,296
- C) 2,557,696
- D) 2,556,686
- E) None of the above

10.  $\frac{255}{17}$

11. Divide 8442 by 42

12.  $36 \overline{)9000}$

- F)  $\frac{1}{17}$
- G) 150
- H) 15
- J) 4335
- K) None of the above

- A) 210
- B) 21
- C) 2,100
- D) 201
- E) None of the above

- F) 25
- G) 205
- H) 250
- J) 2500
- K) None of the above

$$13. \quad \begin{array}{r} 3\frac{1}{2} \\ + 2\frac{1}{3} \\ \hline \end{array}$$

- A)  $5\frac{2}{5}$
- B)  $5\frac{1}{6}$
- C)  $5\frac{5}{6}$
- D)  $6\frac{1}{6}$
- E) None of the above

$$16. \quad \frac{7}{10} - \frac{1}{4} =$$

- F) 1
- G)  $\frac{2}{5}$
- H)  $1\frac{1}{2}$
- J)  $\frac{9}{20}$
- K) None of the above

$$19. \quad 3\frac{2}{3} \times 6 =$$

- A)  $18\frac{2}{3}$
- B) 18
- C) 12
- D) 7
- E) None of the above

$$22. \quad 8 \div 3\frac{1}{3} =$$

- F)  $\frac{5}{12}$
- G)  $24\frac{1}{3}$
- H)  $\frac{3}{80}$
- J)  $2\frac{2}{5}$
- K) None of the above

$$14. \quad 1\frac{1}{5} + 2\frac{5}{6} =$$

- F)  $2\frac{1}{6}$
- G)  $4\frac{1}{30}$
- H)  $3\frac{6}{11}$
- J)  $3\frac{6}{30}$
- K) None of the above

$$17. \quad 1\frac{1}{2} - \frac{7}{8} =$$

- A)  $\frac{2}{3}$
- B)  $\frac{5}{8}$
- C)  $1\frac{3}{8}$
- D)  $\frac{3}{8}$
- E) None of the above

$$20. \quad 1\frac{1}{4} \times 1\frac{3}{5} =$$

- F)  $1\frac{4}{9}$
- G)  $1\frac{3}{20}$
- H) 2
- J)  $2\frac{1}{3}$
- K) None of the above

23. Evenly divide  $5\frac{1}{3}$  pounds of candy among 4 girls

- A)  $9\frac{1}{3}$  lbs.
- B)  $1\frac{1}{3}$  lbs.
- C)  $\frac{3}{4}$  lbs.
- D)  $1\frac{1}{4}$  lbs.
- E) None of the above

15. Find the sum of  $\frac{1}{3}$ ,  $\frac{2}{5}$ , and  $\frac{4}{15}$

- A)  $\frac{7}{23}$
- B)  $\frac{7}{15}$
- C) 1
- D)  $\frac{8}{225}$
- E) None of the above

18. Subtract  $2\frac{1}{3}$  from  $5\frac{5}{8}$ .

- F)  $3\frac{4}{5}$
- G)  $3\frac{1}{4}$
- H)  $3\frac{7}{24}$
- J)  $10\frac{5}{24}$
- K) None of the above

$$21. \quad \frac{4}{5} \div 5 =$$

- A)  $\frac{4}{25}$
- B) 4
- C)  $6\frac{1}{4}$
- D)  $\frac{1}{4}$
- E) None of the above

$$24. \quad 3.7 + .7 + 11.31$$

- F) 15.01
- G) 11.75
- H) 15.71
- J) 14.55
- K) None of the above

25. Find the sum of 1.7, .863, and 7.71

- A) 10.273
- B) 8.251
- C) 9.273
- D) 18.04
- E) None of the above

28.  $35 - 7.81 =$

- F) 28.81
- G) 7.46
- H) 34.219
- J) 28.19
- K) None of the above

31.  $16.2 \times .02 =$

- A) 3.24
- B) 16.22
- C) 32.4
- D) .0324
- E) None of the above

34.  $46 \div .8 =$

- F) .0575
- G) .575
- H) 5.75
- J) 57.5
- K) None of the above

37. Round 2.99897 to the nearest ten-thousandth.

- A) 3.000
- B) 2.998
- C) 2.9990
- D) 2.99810
- E) None of the above

26.  $.09 + 1.1 + 51 + 2.765 =$

- F) 11.935
- G) 54.955
- H) 9.865
- J) 4.465
- K) None of the above

29. Multiply: 
$$\begin{array}{r} 1.58 \\ \underline{.061} \end{array}$$

- A) .09638
- B) 1.641
- C) 1.206
- D) .01206
- E) None of the above

32.  $16.3 \overline{)45.64}$

- F) 2.08
- G) 2.8
- H) .28
- J) 28
- K) None of the above

35. Round 16.738 to the nearest hundredth.

- A) 16
- B) 16.7
- C) 16.73
- D) 16.74
- E) None of the above

38. There are 48 students in a class, of which 30 are boys. What is the ratio of girls to boys?

- F)  $\frac{30}{48}$
- G)  $\frac{18}{48}$
- H)  $\frac{3}{5}$
- J)  $\frac{5}{3}$
- K) None of the above

27.  $27.63 - 4.178 =$

- A) 23.468
- B) 23.568
- C) 23.552
- D) 23.452
- E) None of the above

30.  $1.46 \times .001 =$

- F) .000146
- G) .00146
- H) .0146
- J) .146
- K) None of the above

33.  $.00792 \div .006 =$

- A) 1.32
- B) 13.2
- C) 132
- D) .0132
- E) None of the above

36. Round 263.4735 to the nearest thousandth.

- F) 263
- G) 300
- H) 263.5
- J) 263.47
- K) None of the above

39. Solve this proportion for  $N$ .

$$\frac{6}{7} = \frac{N}{14}$$

- A) 3
- B)  $1\frac{1}{7}$
- C) 12
- D) 18
- E) None of the above

40. Solve this proportion for  $N$ .

$$\frac{8}{15} = \frac{6}{N}$$

- F)  $3\frac{1}{5}$
- G) 13
- H) 20
- J)  $11\frac{1}{4}$
- K) None of the above

41. Change 14.6% to a decimal.

- A) 1.46
- B) .146
- C) 14.6
- D) 146.0
- E) None of the above

42. 14% of 150 =

- F)  $10\frac{5}{7}$
- G) 21
- H) 30
- J) 164
- K) None of the above

43. 8% of 90 =

- A)  $11\frac{1}{4}$
- B) 720
- C) 72
- D) 98
- E) None of the above

44. \_\_\_\_% of 150 is 120

- F) 125%
- G) 95%
- H) 120%
- J) 80%
- K) None of the above

45. \_\_\_\_% of 75 is 45

- A) 30%
- B) 130%
- C) 60%
- D)  $166\frac{2}{3}\%$
- E) None of the above

46. 6% of what number is 12?

- F) 6
- G) 20
- H) 140
- J) 200
- K) None of the above

47. 120% of what number is 108?

- A) 12
- B) 90
- C) 120
- D) 228
- E) None of the above

48. Change  $5\frac{1}{2}$  feet to inches.

- F) 55 inches
- G) 65 inches
- H) 66 inches
- J) 70 inches
- K) None of the above

49. Change  $10\frac{1}{4}$  yards to inches.

- A) 123 inches
- B) 125 inches
- C) 243 inches
- D) 364 inches
- E) None of the above

50. How much will .8 pounds of peanuts cost if one pound sells for \$1.45?

- F) \$.85
- G) \$1.16
- H) \$1.53
- J) \$1.71
- K) None of the above

51. Jane gets a 25% discount on any dress she purchases. A dress marked to sell for \$32.15 would cost her how much?

- A) \$40.19
- B) \$32.40
- C) \$24.11
- D) \$23.76
- E) None of the above

52. Joe's test grades in math for the quarter were 87, 74, 92, 73, 81, and 7. What was his grade for the quarter?

- F) 75
- G) 81
- H) 91
- J) 87.5
- K) None of the above

53. Julie bought a shirt for \$12.50 and a tie for \$9.45. The tax was \$1.06. How much change would he receive from a \$50 bill?

- A) \$21.95
- B) \$23.01
- C) \$26.99
- D) \$32.51
- E) None of the above

55. Three students decided to share expenses of a trip. Fred paid \$30.00, John paid \$40.00, and Tom paid \$10.00. What percent did John pay?

- A) 10%
- B)  $33\frac{1}{3}\%$
- C) 40%
- D) 50%
- E) None of the above

57. Use your rounding skills to estimate, then select the closest answer to the following multiplication problem:

$$\begin{array}{r} 7.8039 \\ \times 7.1801 \\ \hline \end{array}$$

- A) 15
- B) 49
- C) 56
- D) 60
- E) None of the above

59. The distance around a rectangular swimming pool is 80 feet. If the width is 16 feet, how long is the pool?

- A) 20 feet
- B) 64 feet
- C) 32 feet
- D) 24 feet
- E) None of the above

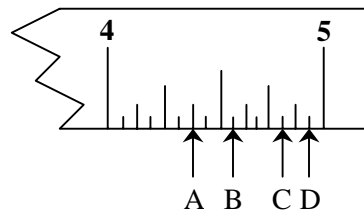
54. John works two hours each day after school and six hours on Saturdays. If he is paid \$3.05 an hour, how much does he earn each week?

- F) \$48.80
- G) \$36.60
- H) \$30.50
- J) \$18.05
- K) None of the above

56. A nurse finds that a patient's heart beats 17 times in 15 seconds. How many times does the heart beat in a minute?

- F) 33
- G) 45
- H) 68
- J) 75
- K) None of the above

58. Which point on the broken ruler is correctly labeled?



- A)  $4\frac{3}{8}$
- B)  $4\frac{5}{16}$
- C)  $4\frac{3}{4}$
- D)  $4\frac{13}{16}$
- F) A
- G) B
- H) C
- J) D
- K) None of the above

60. A concrete mixture is made with 2 cubic feet of cement, 6 cubic feet of sand, and 9 cubic feet of gravel. What is the ratio of sand to gravel?

- F) 1:3
- G) 3:2
- H) 2:9
- J) 6:11
- K) None of the above

## ANSWER KEY

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