PRE-ADMISSION MATURE MATH ASSESSMENT
SAMPLE ASSESSMENT AND PREPARATION GUIDE

This booklet is designed to help you prepare for your Mature Math Assessment.

HELPFUL HINTS

1. For online tests, make sure your computer meets the minimum requirements.
2. Be on time! This will give you the opportunity to get setup.
3. Listen carefully and follow directions.
4. The tests are multiple choice. You will be required to choose the best answer to a question from several choices.
5. If one question is too hard, leave it and go on to the next. You can always come back and try it again if there is time.
6. Work steadily, and complete as many questions as you can. Please note the following are samples of the types of question you will encounter on the assessment and may not reflect exactly the difficulty of the assessment.

If you have a documented disability and require accommodations, please contact accessibility@conestogac.on.ca.

MATURE STUDENT MATHEMATICS ASSESSMENT

OVERVIEW

The Conestoga College Mature Student Math Assessment has practical value for you and for us. Experience has shown that a student needs a certain level of skills in mathematics to succeed in Conestoga College programs. Therefore, we have designed the Mature Student Math Assessment so that you, and we, may be certain you have the skills suitable to your program of study.

A sample assessment is included in this packet. In content, it parallels the actual Mature Student Math Assessment you will write at the College and covers subject material through the grade 10 level.

WHAT TO EXPECT

The Conestoga College Math Skills Assessment has 64 questions – 4 questions for each of the 16 different math skills. The assessment is multiple choice. You will be required to choose the best answer to a question from several choices without the use of a calculator.

Math assessment	120 minutes

We do not allow the use of calculators, dictionaries or learning aids, with the exception for individuals with approved testing accommodations.

SAMPLE MATURE MATH ASSESSMENT

Without the use of a calculator, perform the following operations, as indicated. Always state answers in the lowest form. Please note: the actual assessment is multiple choice.

Fundamentals

1. 216 + 64 + 1092 =

2. 318 – 95 =

3. 6 x 12 x 343 =

4. How much would it cost to cover a floor 8 m x 6 m with carpet that costs $13 per square metre?

Fractions I

5. Find the lowest common denominator of $\frac{1}{3}$, $\frac{1}{7}$, $\frac{1}{2}$

6. Reduce $\frac{24}{56}$ to lowest terms

7. List the prime factors of 216

8. Evaluate $\frac{2}{0}$

Fractions II

9. $\frac{3}{4} + \frac{7}{8} =$

10. $\frac{11}{2} - \frac{2}{3} =$

11. $\frac{63}{8} \times \frac{3}{4} =$

12. If $60\frac{2}{3}$ litres of gasoline are added to a tank that already contains $5\frac{1}{2}$ litres, what is the total amount of gasoline in the tank? **Fractions III**

Fractions III

13. $\frac{7}{8} \times 1\frac{2}{3} \times \frac{24}{5} =$

14. $\frac{2}{3} \div \frac{5}{8} =$

15. $1\frac{3}{4} \div 3\frac{5}{8} =$

16. How many blocks which are $\frac{2}{3}$ metres in length must be laid end to end to make a row 66 metres long?

Order of Operations:

17. 12 + 12 ÷ 6 + 4 =

18. 36 ÷ 12 x 6 – 4 =

19. (18 – 9) ÷ (20 x 6) =

20. 15 + 5 ÷ 5 x 15 =

Exponents I:

21. Evaluate $10^3 \times 10^4$ =

22. Evaluate $2^2 \div 2^7$ =

23. Evaluate $-(7^2)(-4)^2$ =

24. Evaluate $(7 - 4)^2$ =

Decimals

25. 0.653 + 1.09 =

26. 45.75 x 1.20 =

27. 15.75 ÷ 0.25 =

28. Write as a decimal “one thousand twenty-two and eighty-three hundredths.”

Metric Conversions:

29. 456 mm to m =

30. 1500 m^2 to km^2 =

31. 36 km^2 to mm^2 =

32. 125 mm^3 to m^3 =

Fractions-Decimals-Percents:

33. Write $\frac{2}{3}$ as a percent.

34. Write 12 ½% as a decimal.

35. Write 0.125 as a fraction.

36. 42.5 is what percent of 170?

Signed Numbers:

37. -12 + 20 – (-12) =

38. (-6) (2) ÷ (-12) (6) =

39. -(-1) + (1) ÷ [-(-1)] =

40. Which of the following would represent the lower temperature?
(45°) (-24°) (51°) (-17°) (0°)

Scientific Notation:

41. Express 4.95×10^{-3} in ordinary notation.

42. Express 1.75×10^{4} in ordinary notation.

43. Express 0.000875 in scientific notation.

44. Express 9250000 in scientific notation

Substitution:
Given A = 3, B = -1, C = -2, D = 0, E = 0

45. $A(-B + \frac{1}{C}) =$

46. $A^2 (BC)^3 + \frac{D}{C} =$

47. $A - B^2 (\frac{C^3}{A}) =$

48. $AEC^3 \div (A^2B^3D) =$

Equations:

49. If $3G = 24$ G

50. If $4H + 7 = 23$ H =

51. If $5J - 6 = 2J + 12$ J =

52. If $\frac{K}{3} = \frac{15}{105}$ K =

Formula Rearrangement:

53. $V = \frac{D}{T}$ T =

54. $A = (V - U) \div T$ V =

55. $V^2 = U^2 + 2AD$ U =

56. $D = \frac{1}{2} AT^2$ T =

Word Problems:

57. Three times a number plus five is one hundred twenty-five. Find the number

58. Seven times one third of a number, minus four equals ten. Find the number.

59. A collection of dimes and quarters totals $12.55. If there are three more dimes than quarters, how many dimes and quarters are there?

60. Adding two years to the age of a boy would make him a quarter of his father's age. Five years ago his father was one year less than ten times his son's age. Determine the age of the boy and his father.

Geometry: Take $\pi = \frac{22}{7}$

61. What is the area of Figure 4?

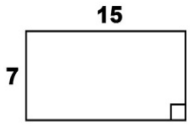

figure 4

62. What is the volume of Figure 5?

63. What is the perimeter of Figure 6?

64. What is the surface area of Figure 7?

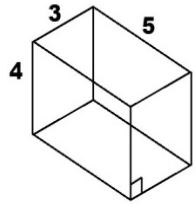

figure 5

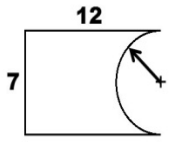

figure 6

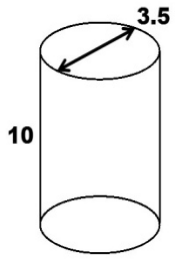

figure 7

ANSWERS

1. 1372
2. 223
3. 24696
4. $624
5. 42
6. $\frac{3}{7}$
7. 3x3x3x2x2x2
8. Undefined
9. $1\frac{5}{8}$
10. $4\frac{5}{6}$
11. $5\frac{29}{32}$
12. $66\frac{1}{6}$
13. 7
14. $1\frac{1}{15}$
15. $\frac{14}{29}$
16. 99
17. 18
18. 14
19. $\frac{3}{40}$
20. 30
21. 10,000,000
22. $\frac{1}{32}$
23. -784
24. 9
25. 1.743
26. 54.90
27. 63
28. 1022.83
29. 4.56×10^{-1} m
30. 1.5×10^{-3} km^2
31. 3.6×10^{13} m^2
32. 1.25×10^{-7} m^2
33. $66\frac{2}{3}\%$
34. 0.125
35. $\frac{1}{8}$
36. 25%
37. 20
38. 6
39. 2
40. -24
41. 0.00495
42. 17500
43. 8.75×10^{-4}
44. 9.25×10^{6}
45. 1 ½
46. 72
47. $5\frac{2}{3}$
48. Undefined
49. G = 8
50. H = 4
51. J = 6
52. $K = \frac{3}{7}$
53. $T = \frac{D}{V}$
54. V = AT + U
55. $U = \pm\sqrt{V^2 - 2AD}$
56. $T = \sqrt{2\frac{D}{A}}$
57. 40
58. 6
59. 38 dimes, 35 quarters
60. Boy 9, Father 44
61. 105 sq. units
62. 60 cu. Units
63. 42 units
64. 129.25 sq. units