



## PRE-ADMISSION TESTING SAMPLE QUESTIONS – BUSINESS MATH

### Testing Information:

- Multiple choice style, computer based test, timed at 1 hour and 20 minutes
- Topics include: fractions, decimals, percents, order of operations, laws of signs (approx. 30 questions)
- Calculators are not permitted, scrap paper and pencils can be used for rough calculations
- Please note, the sample questions were designed to show the types of questions and topics that will be covered. Applicants may use a calculator for the sample questions although, the calculations will not be as complex on the test. The test is also multiple choice and calculators will not be permitted although scrap paper will be supplied.

*For information regarding minimum score requirements for eligibility into your program, please contact Admissions.*

### Testing Policies:

- Pre-Admission math tests are valid for three (3) Mohawk College intake terms. Intake terms include Fall, Winter and Summer.
- It replaces a Math from your transcript for eligibility into a program at Mohawk College only.
- The grades are not transferrable to other colleges
- **Photo I.D** is required for check-in. You will not be permitted to test without valid photo I.D.

*If you require testing accommodations due to a disability, please call the Testing Centre at 905-575-2448.*

Pre-Admission Testing Centre  
905-575-2448  
preadmissiontesting@mohawkcollege.ca

**PRE-ADMISSION TESTING SAMPLE QUESTIONS – BUSINESS MATH****Topic 1: Fractions**

- 1) Reduce  $\frac{9}{36}$
- 2) Convert this fraction into a mixed number in lowest terms  $\frac{60}{25}$
- 3) Find the Least Common Denominator of  $\frac{1}{3}, \frac{1}{15}, \frac{1}{9}$
- 4) Two pins measure  $\frac{3}{6}$  and  $\frac{4}{9}$ 
  - a) What is the length of the larger pin?
  - b) What is the length difference between the two pins?
- 5) Add the fractions and bring your answer to lowest terms  $\frac{1}{5} + \frac{1}{10} + \frac{1}{6}$
- 6) Add  $2\frac{1}{2} + \frac{1}{4} + \frac{1}{5}$
- 7) Add  $4\frac{1}{3} - 1\frac{1}{7}$
- 8) Multiply  $4\frac{2}{9} \times 1\frac{1}{6}$
- 9) Divide  $3\frac{1}{2} \div 1\frac{2}{3}$
- 10) Simplify  $\frac{9\frac{3}{4} + \frac{1}{5}}{\frac{5}{8}}$
- 11) Find the value of  $x$  given  $\frac{x}{23} = \frac{15}{3}$

## Topic 2: Decimals

- 1) Divide 1.3289 by 0.431 and round to three decimal places
- 2) Convert  $158\frac{3}{5}$  to a decimal. Round to one decimal place.
- 3) Convert 11.78 to a mixed fraction
- 4) Evaluate  $2,300 + 3.13 + 1.09$ . Round to one decimal place.
- 5) Evaluate  $1.35 - 26.491 + 11.7$ . Round to three decimal places.
- 6) Evaluate  $0.6 \times 12.34 \times 1.4$ . Round to two decimal places.
- 7) Divide 1.113 by 0.56. Round to three decimal places
- 8) Determine the volume of an aquarium with these definitions:  
 Length = 78 cm; Width = 6 cm; Height = 43 cm
- 9) Bob makes \$888.87 per week before deductions. The following deductions are made from his paycheque: Income Tax \$124.00; Company Pension \$42.86; C.P.P. \$38.97; and Dental Plan = \$31.97.  
 What are his total Deductions? What is his take-home pay?
- 10) Determine how much change you would get from \$100 if you purchased 31.9 litres of gas at a cost of 96.7 cents per litre.

## Topic 3: Percents

- 1) Express the following as percents:

Decimal	Percent
a) 0.62	
b) 3.312	
c) 13	

2) Express the following percents as decimals:

Percent	Decimal
a) 79 %	
b) 317.2 %	
c) $14\frac{1}{3}$ %	

3) Express the following fractions as percents:

Fraction	Percent
a) $\frac{887}{962}$	
b) $\frac{14}{100}$	
c) $7\frac{7}{14}$	

4) Express the following percents in fractional form in lowest terms:

Percent %	Fraction Form
a) 86 %	
b) 52 %	
c) $7\frac{1}{2}$ %	

- 5) Determine  $89\frac{1}{2}\%$  of \$ 3,633 rounded to the nearest cent.
- 6) 316 kg is 15% of what measurement?
- 7) Helmer Co. Produces 1,090 DVD's per year. If 1.4% of these are defective, how many defective DVD's are produced per year? Round your answer to the nearest whole number.
- 8) Mohawk Digital Centre sells webcams for \$120 each. In an attempt to increase profit they increased the price by \$5.81. Express this increase as a percent of the original price.
- 9) Mohawk Digital Centre sells digital cameras for \$390.45 each. In an attempt to increase sales they reduced the price by 2%. What is the new price after the reduction?

#### Topic 4: Order of Operations

- 1) Evaluate the expression to two decimal places:  
 $5 + 5 - 8 + 4 \div 6$
- 2) Evaluate the expression to two decimal places:  
 $(2 \div 6 \times 5)^2 \div 5 - 6$
- 3) Evaluate the expression to two decimal places:  
 $6 - [8 - (2 + 9 \times 3)]$
- 4) Evaluate the expression to two decimal places:  
 $4^2 - \{9^3 + [1^3 - (4 + 3)]\}$
- 5) The formula to obtain the area of a certain shape is:

$$Area = \frac{L}{2} (w + d - t)$$

Determine the area when:

$$L = 18 \text{ m}; t = 2.3 \text{ m}; w = 4.6 \text{ m}; d = 10.1 \text{ m}$$

- 6) Calculate the future value of  $S$  of an annuity using the following formula:

$$S = R \left[ \frac{(1 + i)^n - 1}{i} \right]$$

$$\text{Given: } R = \$250; i = 0.01; n = 13$$

7) Calculate the Book Value  $B$  using the following formula:

$$B = P - \left[ \frac{5m(2n - 0.75m)}{n^3 - 2} \right] (P - S)$$

Given:  $P = \$151,788$ ;  $m = 9$ ;  $n = 11$ ;  $S = \$35,000$

### Topic 5: Laws of Signs

1) Simplify:  $- [ + ( - 19 ) ]$

2) Simplify:  $- [ - ( - 234 ) ]$

3) True or False?  $| - 88 | = | 88 |$

4) True or False?  $-96 > -105$

5) Evaluate:  $7 + \frac{1}{-3} + 4\frac{1}{6}$

6) Evaluate:

$$\left( 7\frac{1}{3} \right) \left( \frac{3}{-4} \right) \div (-2)$$

7) A person leaves the bus terminal and goes 15 blocks WEST for coffee. Next, he goes 2 blocks EAST to mail a letter and then 5 blocks WEST to visit a friend. Upon leaving his friend's house he is struck by a car and an ambulance takes him 9 blocks EAST to the hospital. Determine the direction and number of blocks he must travel from the hospital to make it back to the bus terminal.

## Answer Sheet – Business Math

### Topic 1: Fractions

- 1)  $\frac{1}{4}$
- 2)  $2\frac{2}{5}$
- 3) 45
- 4)  $\frac{1}{2}, \frac{1}{18}$
- 5)  $\frac{7}{15}$
- 6)  $2\frac{19}{20}$
- 7)  $3\frac{4}{21}$
- 8)  $4\frac{25}{27}$
- 9)  $2\frac{1}{10}$
- 10)  $15\frac{23}{25}$
- 11) 115

### Topic 2: Decimals

- 1) 3.083
- 2) 158.6
- 3)  $11\frac{39}{50}$
- 4) 2,304.2
- 5) -13.441
- 6) 10.37
- 7) 1.988
- 8) 20,124 cm<sup>3</sup>
- 9) \$237.80 ; \$651.07
- 10) \$69.15

### Topic 3: Percents

**1)**

- a. 62 %
- b. 331.2 %
- c. 1,300 %

**2)**

- a. 0.79
- b. 3.172
- c. 0.143

**3)**

- a. 92.2%
- b. 14%
- c. 750%

**4)**

- a.  $\frac{43}{50}$
- b.  $\frac{13}{25}$
- c.  $\frac{3}{40}$

**5)** \$3251.54

**6)** 2,106.67 kg

**7)** 15

**8)** 4.84%

**9)** \$382.64



#### Topic 4: Order of Operations

- 1) 2.67
- 2) -5.44
- 3) 27
- 4) -707
- 5)  $111.6 \text{ m}^2$
- 6) \$3452.33
- 7) \$91482.68

#### Topic 5: Laws of Signs

1. 19
2. -234
3. True
4. True
5.  $10\frac{5}{6}$
6.  $2\frac{3}{4}$
7. 9 Blocks in the East Direction