

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 cm³
- 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 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