

UNIVERSITY OF NAMIBIA
MATURE AGE ENTRY
NUMERACY EXAMINATION
(Science Related Paper I)
15 August 2015

DURATION: 1.5 HOURS

MARKS: 75

PROPOSED QUALIFICATION:.....

SURNAME:

STUDENT NUMBER:.....

CENTRE:.....

Instructions

- This question paper consists of five pages
- Attempt all 21 questions in the spaces underneath each question.
- Full marks are obtained for complete answers
- Calculators are allowed
- Round answers to one decimal place where needed

(1) Find the next two numbers in the sequence given below:

(i) 2, 3, 5, 7, ..., ... [1]

(ii) 1, 3, 5, ..., ... [1]

(iii) $\frac{1}{3}, \frac{1}{9}, \frac{1}{27}, \dots, \dots$ [1]

(iv) 1, 11, 21, ..., ... [1]

(v) 3, 0, -3, ..., ... [1]

(2) Simplify the following:

(i) $15x - 2y + 7y + (-10)x - 1$ [2]

(ii) $\frac{1}{3} + \frac{2}{5}$ [2]

(iii) $\frac{x}{y} - \frac{b}{c}$ [2]

(iv) $\frac{6ax^4}{14x^2y^2} \div \frac{2y^2}{3x^4}$ [2]

(v) $x(2x - y) - x(x - y) - y(2x - 2y)$ [2]

(3) It takes 180 gallons of water to fill waterbed while 1 gallon of water cost N\$ $8\frac{1}{3}$.

How much does the total water in the bed cost? [2]

(4) The head of Mathematics department spends a $\frac{1}{3}$ of his $7\frac{1}{2}$ hour day in the meetings and the rest in directing his staff. How many hours a day does he spend directing his staff? [2]

(5) Mrs Amakutsi's car travels $22\frac{1}{2}$ km with one liter of petrol. How far can it travels on $4\frac{1}{2}$ liters of

petrol? [2]

(6) A mountain pack usually sells for N\$ 48. The sale price is 80% of the usual price. What is the sale price? [2]

(7) Name the first year of twenty-first century that is divisible by only 1 and itself. [2]

(8) What is a number that is a factor to any number? [2]

(9) The product of two fractions is $15\frac{1}{8}$. One of the fractions is $2\frac{3}{4}$. What is the other fraction? [2]

(10) A sugar scoop holds $\frac{2}{3}$ cups. How many scoops will equal to 2 cups of sugar? [2]

(11) Manu is using the following table to help him figure prices for tickets.

Tickets	1	2	3	4
Price	N\$ 7.50	N\$ 12.50	N\$ 17.50	N\$ 22.50

A customer came in and ordered 10 tickets. How much should Manu charge for this order? [2]

(12) Name the place value related to each prefix:

(i) milli [1]

(ii) kilo [1]

(iii) centi [1]

(iv) deci [1]

(13) Complete the following: (i) 1 liter = ... milliliter(s) [1]

(ii) 1 kiloliter = ... liter(s) [1]

(iii) 1 centiliter = ... liter(s) [1]

(iv) 1 deciliter = ... liter(s) [1]

(14) Arrange from the least to greatest.

5.05, 5.51, 5.105, 5, 5.15

[1]

(15) Find the value of $a^2 + \frac{b}{3}$ if $a = 4$ and $b = 2$ [1]

(16) If four days from tomorrow is Wednesday, what day was it the day before yesterday? [2]

(17) If the first Monday in the month of May is the first prime number.

What is the date of the last Monday in May? [2]

(18) If tomorrow 's date is the third odd number, what will the be a week from today? [2]

(19) The chart below lists the intensity of various sounds and meaning of each measurement.

Sound	Decibels	Mathematical Language
barely heard	0	10^0
breathing	10	10^1
rustling leaves	20	10^2
talking	40	10^4
noisy office	60	10^6
vacuum cleaner	70	10^7
car	80	10^8
subway train	100	10^{10}
motorcycle	110	10^{11}
jet airplane	130	10^{13}

(a) How many times more intense is the sound of a passing car than the sound of a noisy office? [2]

(b) How many times more intense is the first sound than the second?

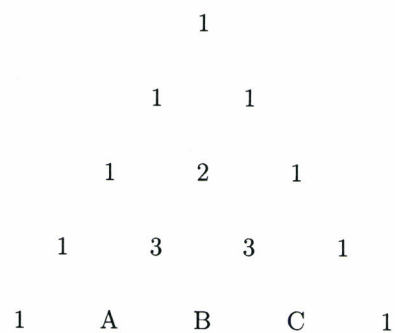
(i) subway train, noisy office [2]

(ii) breathing, barely heard sound [2]

(iii) car, vacuum cleaner [2]

(iv) jet airplane, breathing [2]

(20) What numbers do A, D and C represent in the following triangle of numbers

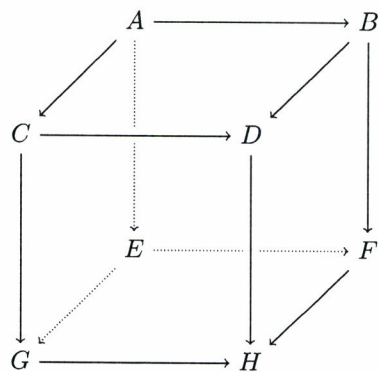


A=.....; B=..... and C=.....

[3]

(21) Each edge of a cube is 15 m long. What is the volume of the cube?

[3]



END