

MCQ1: Determine the value of  $x$  and  $y$  simultaneously given that  $x + y = 10$  and  $xy = 21$

Answer:  $x, y = (3, 7), (7, 3)$

MCQ2: The sum of twice a number and 5 is less than the sum of one-third of the number and 6, find the number.

Answer:  $x \leq \frac{3}{5}$

MCQ3: The sum of eight times a number and 15 is less than thrice the same number minus 10, find the number.

Answer:  $x \leq -5$

MCQ4:

Find the sum of eight terms of the GP 2, 6, 18, -----.

Answer: 6560

MCQ5: Simplify  $3\sqrt{12} - 4\sqrt{75} + \sqrt{48}$

Answer:  $-10\sqrt{3}$

MCQ6: Solve for the value of  $t$  and  $u$  given that  $2^{n+0}=8$  and  $3^{2n-0}=27$

Answer:  $n = 2$  and  $o = 1$

MCQ7: Factorize the equation  $2y^2 - 11y + 5$  and get the value of  $y$

Answer: 5 or  $\frac{1}{2}$

MCQ8: The sum of twice a number and 15 is less than thrice the same number minus 9. Form an inequality for the statement and get the value of the number.

Answer:  $x \leq 24$

MCQ9: Find 127th term of the AP given as 5, 8, 11, -----

Answer: 383

MCQ10: The 21st term of an AP is 50,000, if the first term is 20,000. Find the common difference.

Answer: 1500

MCQ11:

If 3,  $x$ ,  $y$ , 18 are AP. Find the values of  $X$  and  $Y$ .

Answer:  $x=8$ ,  $y=13$

MCQ12: Find the gradient of the line described by the given point.  $P(5, 3)$  and  $Q(7, 10)$

Answer:  $\frac{7}{2}$

MCQ13: 8 pencils and 3 books cost N288 while 5 pencils and 2 books cost N184. what is the cost of pencil and books.

Answer: N24 and N32

MCQ14: Using factorization method solve for  $x$ ,  $5x^2 + 12x + 7 = 0$ .

Answer:  $-1$  or  $-\frac{7}{5}$

MCQ15: Given equation  $4x^2 - 9x + 5 = 0$ , find the value of  $x$ .

Answer: 1 or 1.25

MCQ16: Find the value of K in the perfect square  $12x^2 - 6x + K$ .

Answer: 0.75

MCQ17: Find the quadratic equation whose root is  $-1/2$  and  $3/2$ .

Answer:  $4x^2 - 4x - 3$

MCQ18: Solve  $(7\frac{3}{5} \text{ of } 17/19) / 15/25$

Answer:  $11\frac{1}{3}$

MCQ19: Solve  $1\frac{6}{9} \text{ of } \frac{2}{3} - 3\frac{1}{5} + 2\frac{1}{2} / \frac{1}{2}$

Answer:  $2\frac{41}{45}$

MCQ20: Convert ratio 4:5 to percentage

Answer: 80%

MCQ21: Given that factor overhead is  $\frac{2}{5}$ , prime cost is  $\frac{1}{5}$ . Calculate the fraction of the total spent on other items.

Answer:  $\frac{2}{5}$

MCQ22: Express 5hrs as a ratio of 1week and 2days

Answer:  $5/216$

MCQ23:

The ratio by weight (kg) of zinc, tin and copper are 4:3:3, if the work requires 640kg alloy, what is the required kg for zinc.

Answer: 256kg

MCQ24:

For selling an item for N850 a trader made a profit of 15%. What should be selling price be to make a profit of 20%.

Answer:

887

MCQ25:

Solve the simultaneous inequalities  $6x - 2y \geq 14$  and  $14x + 3y \leq 24$  and determine the values of x and y.

Answer:  $x \geq 1.96$ ,  $y \leq 1.12$

MCQ26: Simplify  $10\bar{r} / (10 - 5)\bar{r}$

Answer:  $30240$

MCQ27: In how many ways can the letter of the word FRACTIONS be written?

Answer: 362,880 ways

MCQ28: In how many ways can the word EXAMINATION be arranged?

Answer: 4,989,600

MCQ29:

Find the value of  $(1.06)^7$

Answer: 1.5

MCQ30: In how many ways can the letter OSOGB0 be arranged?

Answer: 120 ways

MCQ31: Five men sit around a circular table, how many ways can this be done?

Answer: 120 ways

MCQ32: Multiply  $4\frac{7}{12} \times 12$

Answer: 288

MCQ33: A committee has ten members, how many ways can the MD, Chairman, Secretary and ICT Manager be selected?

Answer: 5040 ways

MCQ34: Solve  ${}^7P_4 - {}^4P_3$

828

Answer: 828

MCQ35: From a class of 12 students, six are to be selected as a member of a committee. In how many ways can this be done?

Answer: 665,280

MCQ36: A school committee is to be formed. There are nine girl and six eligible boys. In how many ways can the committee be formed if there are four girls and three boys? $1+xn=1+nx1!+nn-1x22!+...$

Answer: 2520

MCQ37: Find 127th term of the AP given as 5,8,11,-----

Answer: 383

MCQ38: An imaginary number is a number that has \_\_\_\_\_

Answer: negative square root

MCQ39: Simplify  $3\frac{1}{2} - 2\frac{7}{12}$  $1+xn=1+nx1!+nn-1x22!+...$

Answer:  $1\frac{1}{12}$

MCQ40: It took 7men 35hours to build a house. How much time will it take 12 men working at the same rate to finish the house.

Answer: 20hrs 42mins

MCQ41: For selling an item for N 900 a trader make a profit of 25%. What should the selling price be to make a profit of 30%.

Answer: N936

MCQ42: Factorise the polynomial  $4x^2 + 20x + 3xy + 15y$

Answer:  $(x+5)(4x+3y)$

MCQ43: Solve the indices  $(2a^3b^2)(a^{-2}b)/(2ab)^{-2}$

Answer:  $8a^3b^5$

MCQ44: Solve  $\log_5 12.5 + \log_5 2$

Answer: 2

MCQ45: Convert  $\log_3 6$  to base 3

Answer: 1.63

MCQ46:

The LCM of  $14a^2b^2$ ,  $7ab$  and  $28ab^2$  is

Answer:  $28a^2b^2$

MCQ47: Express 200g as a ratio of 4kg

Answer: 1g : 20g

MCQ48: It took 4 men 20 hours to clean up the hostel of a certain school. How much time will be taken by 8 men working at the same rate to finish work?

Answer: 10hours

MCQ49: Obaka and Bakare Shared a profit of N50,000 at ratio 3:4, what is Obaka's share of the profit?

Answer: N21,428.57

MCQ50: If 250 labourers are needed to clean up the factory of a certain manufacturing company having 50 machines. How many labourer will be needed if 50 similar machines are required?

Answer: 250

FBQ1: When both numerator and denominator of a fraction are multiplied by the same number (except \_\_\_\_\_), another fraction is obtained

Answer: zero

FBQ2: Monomials can be added or subtracted to form \_\_\_\_\_.

Answer: polynomials

FBQ3: An improper rational expression is the one in which the degree of the denominator is \_\_\_\_\_ than the degree of the numerator

Answer: Less

FBQ4: Since the degree of numerator is greater than that of the denominator, the rational function is \_\_\_\_\_.

Answer: Improper

FBQ5: There are \_\_\_\_\_ forms of arrangements of objects that the concept of factorial can assist us to obtain.

Answer: Two

FBQ6: The total expenses of Obaka Nigeria Limited in the year ended 31 December, 2018 were N180, 000. This consists of: Wages and salaries = N 50, 000 Selling and distributing expenses= N 20,000 Insurance = N 5,000 Rent = N 30,000 Electricity = N 35,000 Traveling and fueling = N 35,000 Miscellaneous expenses = N 5,000The fractional part of the total that is rent is \_\_\_\_\_;

Answer: 1/6

FBQ7: The value of  $(1.06)^7$  is \_\_\_\_\_.

Answer: 1.5

FBQ8: The ratio by weight (kg) of zinc, tin and copper are 4:3:3, if the work requires 640kg alloy, the required kg for zinc is \_\_\_\_\_.

Answer: 256kg

FBQ9: Simplify without using table  $\log_5 12.5 + \log_5 2$  is \_\_\_\_\_.

Answer: 2

FBQ10: Simplify and solve for x, given  $(0.125)^{x+1} = 1/64$  yields \_\_\_\_\_.

Answer: 1

FBQ11: Convert  $\frac{2}{5}$  to ratio = \_\_\_\_\_

Answer: 2:5

FBQ12: Convert  $\frac{3}{5}$  to percentage = \_\_\_\_\_

Answer: 60%

FBQ13: If 250 labourers are needed to clean up the factory of a certain manufacturing companies having 50 machines, \_\_\_\_\_ labourers will be needed if additional 40 similar machines are required.

Answer: 450

FBQ14: It took 5 men 20 hours to clean up the warehouse of a certain company, therefore, \_\_\_\_\_ hours will be taken by 10 men doing the same work at the same rate.

Answer: 10

FBQ15: The population of a country was 1.5 million in 1998 and in 2008, the population dropped to 1.2 million. The percentage reduction in population was \_\_\_\_\_ per cent.

Answer: 20

FBQ16:  $9 - \frac{3}{2} =$  \_\_\_\_\_

Answer:  $\frac{1}{27}$

FBQ17:  $(x-3)^0 =$  \_\_\_\_\_.

Answer: 1

FBQ18:  $a^2b^3/ab =$  \_\_\_\_\_.

Answer:  $ab^2$

FBQ19: An orange can be shared among four children equally so that each of them gets a \_\_\_\_\_ of the orange.

Answer: quarter

FBQ20: A \_\_\_\_\_ is a small amount or proportion of a whole.

Answer: fraction

FBQ21: A proportion is simply an expression of the equation of \_\_\_\_\_ ratios.

Answer: two

FBQ22: If  $\frac{12}{5} = \frac{7}{5}$ , then  $\frac{32}{7} =$

Answer:  $\frac{23}{7}$

FBQ23: Convert  $\frac{2}{8}$  to decimal = \_\_\_\_\_

Answer: 0.25

FBQ24:  $x + 2y$  is a mathematical expression but  $x + 2y = 7$  is a mathematical \_\_\_\_\_.

Answer: equation

FBQ25: The first and last term of an AP are 5 and 100 respectively. The sum of AP, if the AP has 20 terms is \_\_\_\_\_.

Answer: 1050

FBQ26: The present value of N923 receivable in 7 years if the money is worth 15% per year compounded quarterly is \_\_\_\_\_.

Answer: 346.98

FBQ27: The present value of 10,000 receivable 5 years from now if money is worth 10% per annum is \_\_\_\_\_.

Answer: 6,209.20

FBQ28: Five men sit around a circular table, this can be done in \_\_\_\_\_ ways.

Answer: 120 ways

FBQ29: A committee has ten members, the MD, Chairman, Secretary and ICT manager can be selected in \_\_\_\_\_ ways.

Answer: 5040 ways

FBQ30: From a class of 12 students, six are to be selected as a member of a committee. This can be done in \_\_\_\_\_ ways.

Answer: 665,280

FBQ31: Given that the quantity demand of orange  $Q_d = 40 - 5p$ , then \_\_\_\_\_ units of orange is demanded if price is N5.

Answer: 15

FBQ32:

Given that  $A$  {prime number less than 20},  $B$  {even numbers less than 15},  $C$  {Multiples of 4 less than 15} then  $A \cup B \cap C$  is \_\_\_\_\_.

Answer: {4,8,12}

FBQ33:

A proper subset is a set that has all the \_\_\_\_\_ of a set in another set

Answer: Elements

FBQ34: Given  $\xi = \{1,2,3,4,5,6,7,8\}$ ,  $A = \{1,2,4,8\}$ ,  $B = \{1,3,5,7\}$ ,  $C = \{2,4,6,8\}$ , find  $A \cap B^c \cup C^c$ .

Answer: {1,2,3,4, 5,7,8}

FBQ35: ECO 153 is introduction to \_\_\_\_\_ method I

Answer: quantitative

FBQ36: In  $17 + 3y = 20$ , the value of  $y$  will be \_\_\_\_\_

Answer: 1

FBQ37: The ability of a positive number to increase is subject to be added to another positive number (except \_\_\_\_\_).

Answer: 1

FBQ38: A \_\_\_\_\_ is formed when a set of number is increasing or decreasing by a constant value as the term of the sequences are being formed.

Answer: sequence

FBQ39: If the AP is given as 5, 8, 11.... The 127th term is \_\_\_\_\_

Answer: 383

FBQ40: The arithmetic progression 8, 11, 14, 17, ..., 380 has \_\_\_\_\_ terms.

Answer: 125

FBQ41: A student borrows 600 at 7% interest compounded annually. He pays off the loan at end of 3 years. He paid a total amount of \_\_\_\_\_.

Answer: 735

FBQ42: Make  $x$  the subject of the formula  $L = \frac{xh}{a(x+p)}$  gives \_\_\_\_\_.

Answer:  $x = \frac{ap}{h - La}$

FBQ43: Tunde save N40,000 in the first year of a new job. In each subsequent year, he saved 15% more than in the previous year. The total amount he has saved in 5 years is \_\_\_\_\_.

Answer: N269,695

FBQ44: Express 5hrs as a ratio of 1week and 2days gives \_\_\_\_\_.  
Answer:  $5/216$

FBQ45: To convert ratio 4:5 to percentage yields \_\_\_\_\_.  
Answer: 80%

FBQ46: An improper fraction is classified as \_\_\_\_\_.  
Answer:  $3/2$

FBQ47: An imaginary number is a number that has \_\_\_\_\_.  
Answer: negative square root

FBQ48: The 3rd and the 6th term of GP are 18 and 486, therefore, the 10th term is \_\_\_\_\_.  
Answer: 39366

FBQ49: The second term of a geometric progression is 6 and the fifth term is 162. The third term is \_\_\_\_\_.  
Answer: 18

FBQ50: The 4th and 7th term of an arithmetic sequence are 6 and 15 respectively. The nth term of the sequence is \_\_\_\_\_.  
Answer: 4