

eco153 List of Questions

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Q1 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?

- ☐ 62555
- ☒ 665280
- ☐ 234560
- ☐ 320450

Q2 How many ways can a committee of two men and three women be selected from groups of eight men and seven women?

- ☐ 780
- ☐ 880
- ☒ 980
- ☐ 1080

Q3 In how many ways can the letter of the word FRACTIONS be written?

- ☒ 362,880 ways
- ☐ 4842 ways
- ☐ 720 ways
- ☐ 7999 ways

Q4 In how many ways can the letter OSOGBO be arranged?

- ☐ 138 ways
- ☐ 180 ways
- ☒ 120 ways
- ☐ 30 ways

Q5 In how many ways can the word EXAMINATION be arranged?

- ☐ 100213
- ☐ 242464
- ☒ 4989600
- ☐ 587678

Q6 Multiply  $4\frac{2}{3} \times 12$

- ☐ 300
- ☒ 288
- ☐ 450
- ☐ 270

Q7 Solve  ${}^7P_4 \times {}^4P_2$

- ☐ 900
- ☐ 375
- ☐ 280
- ☒ 828

Q8 Solve  $2x-1=9$

- ☐ 2
- ☐ 3
- ☐ 4
- ☒ 5

Q9 How many ways can a committee of two men and three women be selected from groups of eight men and seven women?

- ☐ 780
- ☐ 880
- ☒ 980
- ☐ 1080

Q10 In how many ways can the letter OSOGBO be arranged?

- ☐ 138 ways
- ☐ 180 ways
- ☒ 120 ways
- ☐ 30 ways

Q11 Find the value of  $(1.06)^7$

- ☐ 1.85
- ☐ 1.33
- ☐ 1.23
- ☒ 1.5

Q12 In how many ways can the word EXAMINATION be arranged?

- ☐ 100213
- ☐ 242464
- ☒ 4989600
- ☐ 587678

Q13 In how many ways can the letter of the word FRACTIONS be written?

- ☒ 362,880 ways
- ☐ 4842 ways
- ☐ 720 ways
- ☐ 7999 ways

Q14 Simplify  $10\frac{2}{3} \div (10-5)\frac{2}{3}$

- ☐ 22575
- ☐ 88490
- ☐ 4123
- ☐ 30240

**Q15** A school committee is to be formed. There are nine girls and six eligible boys. In how many ways can the committee be formed if there are four girls and three boys?

- ☐ 2520
- ☐ 3500
- ☐ 2825
- ☐ 3020

**Q16** 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?

- ☐ 62555
- ☐ 665280
- ☐ 234560
- ☐ 320450

**Q17** Solve  ${}^7P_4 \times {}^4P_3$

- ☐ 900
- ☐ 375
- ☐ 280
- ☐ 828

**Q18** A committee has ten members, how many ways can the MD, Chairman, Secretary and ICT manager be selected?

- ☐ 5000 ways
- ☐ 7200 ways
- ☐ 5040 ways
- ☐ 23,00 ways

**Q19** Multiply  $4 \times 12$

- ☐ 300
- ☐ 288
- ☐ 450
- ☐ 270

**Q20** Five men sit around a circular table, how many ways can this be done?

- ☐ 120 ways
- ☐ 130 ways
- ☐ 140 ways
- ☐ 138 ways

**Q21** 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?

- ☐ 62555
- ☐ 665280
- ☐ 234560
- ☐ 320450

**Q22** How many ways can a committee of two men and three women be selected from groups of eight men and seven women?

- ☐ 780
- ☐ 880
- ☐ 980
- ☐ 1080

**Q23** In how many ways can the letters of the word FRACTIONS be written?

- ☐ 362,880 ways
- ☐ 4842 ways
- ☐ 720 ways
- ☐ 7999 ways

**Q24** In how many ways can the letters OSOGBO be arranged?

- ☐ 138 ways
- ☐ 180 ways
- ☐ 120 ways
- ☐ 30 ways

**Q25** In how many ways can the word EXAMINATION be arranged?

- ☐ 100213
- ☐ 242464
- ☐ 4989600
- ☐ 587678

**Q26** Multiply  $4 \times 12$

- ☐ 300
- ☐ 288
- ☐ 450
- ☐ 270

**Q27** Solve  ${}^7P_4 \times {}^4P_3$

- ☐ 900
- ☐ 375
- ☐ 280
- ☐ 828

**Q28 Solve  $2x-1=9$**

- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

**Q29 How many ways can a committee of two men and three women be selected from groups of eight men and seven women?**

- ☐ 780
- ☐ 880
- ☐ 980
- ☐ 1080

**Q30 In how many ways can the letter OSOGBO be arranged?**

- ☐ 138 ways
- ☐ 180 ways
- ☐ 120 ways
- ☐ 30 ways

**Q31 Find the value of  $(1.06)^7$**

- ☐ 1.85
- ☐ 1.33
- ☐ 1.23
- ☐ 1.5

**Q32 In how many ways can the word EXAMINATION be arranged?**

- ☐ 100213
- ☐ 242464
- ☐ 4989600
- ☐ 587678

**Q33 In how many ways can the letter of the word FRACTIONS be written?**

- ☐ 362,880 ways
- ☐ 4842 ways
- ☐ 720 ways
- ☐ 7999 ways

**Q34 Simplify  $10\frac{1}{2} \div (10-5)\frac{1}{2}$**

- ☐ 22575
- ☐ 88490
- ☐ 4123
- ☐ 30240

**Q35 A schoolcommittee is to be formed. There are nine girls and six eligible boys. In how many ways can the committee be formed if there are four girls and three boys?**

- ☐ 2520
- ☐ 3500
- ☐ 2825
- ☐ 3020

**Q36 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?**

- ☐ 62555
- ☐ 665280
- ☐ 234560
- ☐ 320450

**Q37 Solve  $7P\frac{1}{2} \times \frac{1}{2} \times 4P\frac{1}{2}$**

- ☐ 900
- ☐ 375
- ☐ 280
- ☐ 828

**Q38 A committee has ten members, how many ways can the MD, Chairman, Secretary and ICT manager be selected?**

- ☐ 5000 ways
- ☐ 7200 ways
- ☐ 5040 ways
- ☐ 23,00 ways

**Q39 Multiply  $4\frac{1}{2} \times 12$**

- ☐ 300
- ☐ 288
- ☐ 450
- ☐ 270

**Q40 Five men sit around a circular table, how many ways can this be done?**

- ☐ 120 ways
- ☐ 130 ways
- ☐ 140 ways
- ☐ 138 ways

**Q41 8 pencils and 3 books cost N288 while 5 pencils and 2 books cost N184. What is the cost of pencil and books?**

- ☐ N24 and N32
- ☐ N38 and N15
- ☐ N15 and N27
- ☐ N31 and N35

**Q42** A proper subset is a set that has \_\_\_\_\_.

- ☐ All the elements of a set in another set
- ☐ All the element are the same
- ☐ All the element are not the same
- ☐ none

**Q43** A survey conducted for 50 members of staff of Cadbury plc shows that 30 of them have degree while 35 possess H.N.D. if 8 of the employees possess neither of the certificate how many have both degree and H.N.D?

- ☐ 24
- ☐ 23
- ☐ 16
- ☐ 18

**Q44** Determine the value of x and y simultaneously given that  $x + y = 10$  and  $xy = 21$

- ☐  $x, y = [(8, 4)(4, 8)]$
- ☐  $x, y = [(7, 4)(4, 3)]$
- ☐  $x, y = [(11, 7)(7, 11)]$
- ☐  $x, y = [(3, 7)(7, 3)]$

**Q45** Find the gradient of the line described by the given point. P(5,3) and Q(7,10)

- ☐  $2\frac{1}{2}$
- ☐  $7\frac{1}{2}$
- ☐  $\frac{1}{2}$
- ☐  $7\frac{3}{8}$

**Q46** Find the quadratic equation whose root is  $\frac{1}{2}$  and  $\frac{3}{2}$ .

- ☐  $3x^2 - 4x + 3$
- ☐  $4x^2 - 4x - 3$
- ☐  $4x + 3 - 3$
- ☐  $8x^2 - 8x - 3$

**Q47** Find the sum of 28th term of the AP 3+10+17+-----

- ☐ 2500
- ☐ 2450
- ☐ 2830
- ☐ 2730

**Q48** Find the value of K in the perfect square  $12x^2 - 6x + K$

- ☐ 4
- ☐ 2
- ☐ 6
- ☐ 12

**Q49** Given equation  $4x^2 - 7x + 9 = 0$ , find the value of x.

- ☐ 2.1 or 3.2
- ☐  $\frac{1}{2}$  or  $\frac{3}{4}$
- ☐  $3\frac{1}{2}$  or  $\frac{5}{2}$
- ☐ 2 or 3

**Q50** Given that A {prime number less than 20}, B {even numbers less than 15}, C {Multiples of 4 less than 15} then what is  $A \cup B \cap C$ ?

- ☐ {2,3,5,14}
- ☐ {4,8,12}
- ☐ {5,6,7,9}
- ☐ {14,17,19}

**Q51** Given that the quantity demand of orange  $Q_d = 40 - 5p$ , what quantity of orange is demanded if price is N5

- ☐ 7 units
- ☐ 8units
- ☐ 11units
- ☐ 15units

**Q52** 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  $A \cap B' \cup C'$ .

- ☐ {1,3,5,7,}
- ☐ {3,5,7,}
- ☐ {1,2,3,5,7,8}
- ☐ {1,2,3,5,6,7,8}

**Q53** Given that the quantity demand of orange  $Q_d = 100 - 4p$ , what quantity of orange is demanded if price is N10

- ☐ 70 units
- ☐ 60 units
- ☐ 40 units
- ☐ 140 units

**Q54** The equilibrium conditions of two market ketu and mile12, where  $p_k = \frac{1}{2}$  and  $p_m = \frac{1}{3}$  what are the prices of beans and meat, given that  $8p_k + \frac{1}{2} - 3p_m = 7$  and  $-p_k + 7p_m = 19$ ?

- ☐  $7p_k = \frac{1}{2}$  and  $8p_m = \frac{1}{3}$
- ☐  $5p_k = \frac{1}{2}$  and  $10p_m = \frac{1}{3}$
- ☐  $2p_k = \frac{1}{2}$  and  $3p_m = \frac{1}{3}$
- ☐  $2p_k = \frac{1}{2}$  and  $4p_m = \frac{1}{3}$

**Q55** The sum of eight times a number and 15 is less than thrice the same number minus 10, find the number.

- ☐  $x > 5$

- ☐  $x \geq 5$
- ☐  $x < -5$
- ☐  $x \leq 5$

**Q56** The sum of twice a number and 5 is less than the sum of one-third of the number and 6, find the number.

- ☐  $x < 3/5$
- ☐  $x > 3/5$
- ☐  $x < -3/5$
- ☐  $x > -3/5$

**Q57** Using factorization method solve for x,  $5x^2 + 12x + 7 = 0$

- ☐  $2/3$  or  $7/9$
- ☐  $1/3$  or  $5/6$
- ☐  $2/3$  or  $1/3$
- ☐ 4 or 5

**Q58** If  $A = \{3, 5, 7, 9\}$   $B = \{2, 3, 4, 8, 7, 9\}$  then what is  $A \cup B$ ?

- ☐  $\{1, 2, 3, 5, 6, 8\}$
- ☐  $\{2, 3, 3, 4, 7, 9\}$
- ☐  $\{1, 2, 3, 5, 7\}$
- ☐  $\{2, 3, 4, 5, 7, 8, 9\}$

**Q59** Solve the simultaneous inequalities  $6x - 2y \geq 14$  and  $14x + 3y \geq 24$  and determine the values of x and y.

- ☐  $x \geq 1.96, y \geq 1.12$
- ☐  $x \geq -1.96, y \geq 1.12$
- ☐  $x = 27, y = 16$
- ☐  $x > 0, y < 1$

**Q60** The 9th term of an arithmetic sequence is 12 and the 17th term is 28, find the 4th term of the arithmetic sequence.

- ☐ 28.2
- ☐ 25.4
- ☐ 16.5
- ☐ 19.77

**Q61** Simplify  $(7 \times 17 \times 19) \times 15 \times 25$

- ☐ 11
- ☐ 1
- ☐ 9
- ☐ 2

**Q62** Solve  $16 \times 9 \times 3 + 2 \times \frac{1}{2}$

- ☐ 4
- ☐ 17
- ☐ 241
- ☐ 3

**Q63** An imaginary number is a number that has \_\_\_\_\_.

- ☐ Positive square root
- ☐ positive square
- ☐ negative square
- ☐ negative square root

**Q64** An improper fraction is classified as \_\_\_\_\_.

- ☐ 3
- ☐ 3
- ☐ 1
- ☐ 1

**Q65** convert ratio 4:5 to percentage

- ☐ 0.45
- ☐ 0.8
- ☐ 0.355
- ☐ 0.42

**Q66** Express 5hrs as a ratio of 1week and 2days

- ☐ 5
- ☐ 5
- ☐ 6
- ☐ 8

**Q67** Express the fraction in the lowest possible equivalent  $16x^5y^4 \div 48xy \div 32xy \div 24x^3y^2$

- ☐  $2xy$
- ☐  $x^2y^3$
- ☐  $\frac{1}{2}x^2y^3$
- ☐  $x^2y$

**Q68** Factor the polynomial  $4x^2 + 20x + 25$

- ☐  $(4x-3y)(x+5)$
- ☐  $(4x+3y)(x+5)$
- ☐  $(4x+3y)^2(x-5)$
- ☐  $(x-5)(4x+3y)$

Q69 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%?

- ☐ 739
- ☒ 887
- ☐ 850
- ☐ 705

Q70 Given that factor over head is  $\frac{1}{4}$ , prime cost is  $\frac{1}{3}$ . Calculate the fraction of the total spent on other items.

- ☒  $\frac{1}{4}$
- ☐  $\frac{1}{3}$
- ☐  $\frac{1}{2}$
- ☐  $\frac{1}{4}$

Q71 It took 7 men 35 hours to build a house. How much time will it take 12 men working at the same rate to finish the house?

- ☒ 20hrs 42mins
- ☐ 28hrs 3mins
- ☐ 27hrs 48mins
- ☐ 38hrs 44mins

Q72 Make x the subject of the formula  $L = xh - a(x+p)$

- ☐  $x = h - ap - a(x+p)$
- ☒  $x = ap - h - La$
- ☐  $xh = ap - La$
- ☐  $h = apx - Lax$

Q73 Find the LCM of  $14a^2b^2$ ,  $7ab$  and  $28ab^2$

- ☐  $28ab$
- ☐  $28ab^2$
- ☐  $56b^2a^2$
- ☒  $28a^2b^2$

Q74 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?

- ☐ 255kg
- ☐ 257kg
- ☒ 256kg
- ☐ 75kg

Q75 Which of the these is an imaginary?

- ☐  $\frac{1}{2}$
- ☐ 25
- ☒  $\frac{1}{2} - 4i$
- ☐  $3 - \frac{1}{2}$

Q76 Simplify  $\frac{1}{2} \times \frac{1}{5} \times \frac{1}{4}$

- ☐ 5
- ☒ 17
- ☐ 7
- ☐ 6

Q77 Simplify  $1 \frac{1}{2} + (2 \frac{1}{4} \text{ of } 12 \frac{1}{2} - 16) - \frac{1}{2}$

- ☐  $21 \frac{1}{2}$
- ☐  $5 \frac{1}{2}$
- ☐  $7 \frac{1}{2}$
- ☒  $7 \frac{1}{8}$

Q78 simplify  $3\frac{1}{2} - 2\frac{7}{12}$

- ☐  $10 \frac{1}{12}$
- ☐  $1 \frac{1}{12}$
- ☒  $11 \frac{1}{12}$
- ☐  $9 \frac{1}{10}$

Q79 Simplify and solve for x, given  $(0.125)x + 1 = 1 \frac{1}{4}$

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4

Q80 Simplify without using table  $\log_{10} 12.5 + \log_{10} 2$

- ☐ 3
- ☐ 1
- ☐ 4
- ☒ 2