**MUCHINGA PROVINCE**

**MATHEMATICS QUIZ**

**1**. A garden Centre sales Ten different varieties of roses. A gardener wishes to buy eight different roses. Calculate the number of ways she can make a selection.

 **ANSWER: 45 different ways**

**2**. The mean of the numbers 2, 6, x and 12 is 6. Find the value x.

 **ANSWER:** **4**

**3**. A rectangular piece of paper measuring 37 x 48 cm is cut into pieces measuring 5 x 5 cm.

 What is the largest number of whole squares that can be cut out

 **ANSWER:** **63**

**4.** The angle of depression from point A to B is 68o. What is the bearing of A from B?

 **ANSWER: 022o**

**5.** A Camera is bought at K 275, 000 inclusive of a 10% sales tax. Find the sales tax.

**ANSWER:** **k 25, 000**

**6.** The ratio A : B is 2 : 5 and the ratio of B : C is 3 : 8. Find the ratio of A : C.

 **ANSWER: 3 : 20 ( accept 6 : 40)**

**7.** Workers can build a wall in 25 days. How many workers are needed to complete the wall in 10 days?

 **ANSWER:** **40 days**

**8.** How many electric poles can be erected over a distance of 30 meters if they are put 3 meters apart. (one attempt only)

 **ANSWER:** **11**

**9.** If x is an odd number, find in terms of x the sum of the next two even numbers

 **ANSWER: 2x + 4.**

**10.** It takes 2 hours for a plane to cover a distance of 3000km. A plane leaves point X at 02 hours and arrives at Y at 23 hours. Find the distance between X and Y.

 **ANSWER: 31, 500 km**

**11.** If 3, 4, x and 13 in that order, a medium of 6. Find the value of x.

 **ANSWER:** **8.**

**12.** What do we call a point with three reference planes?

 **ANSWER:** **A point in space**

**13.** The transformation T maps the negative X – axis onto the positive y – axis. If T is a reflection, find the equation of the mirror line.

 **ANSWER:** **y = -x or –y = x**

**14.** Find the absolute value of 2x – 8 if x = 3.

 **ANSWER:** **2**

**15.** A farmer has twice as many goats as cows and half as many pigs as cows. If he has 45 pigs on his farm, how many animals does he keep?

 **ANSWER:** **315**

**16.** What do we call the laws of points equidistant from a fixed point in three dimension?

 **ANSWER:** **sphere**

**17**. What is the remainder when 4x2 + 2x + 1 is divided by x + 2

 **ANSWER: 21**

**18**. What is the integral of 2 with respect to m

 **Answer: 2m + c**

**19**. How many minutes does it take for the minutes hand of a clock to turn through 216o.

 **ANSWER:** **36 minutes**

**20.** Set p has 64 subsets, find the number of its elements.

 **ANS: 6**

**21**. A bag contains five red marbles. A red marble is picked and not replaced. What is the

 probability of picking an orange marble on the second pick?

 **ANS:** $\frac{6}{10}$ **or** $\frac{3}{5}$ **or 0.6**

**22.** Write down the square root of $6\_{4}^{1}$.

 **ANS:** $\frac{5}{2} or 1\frac{1}{2}$

**23.** The highest air temperature recorded is $58.8℃$.The lowest air temperature recorded is

 $-89.2 ℃$. What is the difference between these two temperatures?

 **ANS:** $148.0℃$

**24.** When peter went to Hong Kong, he changed $£ 50 $to $\$ 616$. Calculate what one British

 pound$(£)$ was worth in dollars ($) in Hong Kong.

 **ANS: $12.32**

**25.** Calculate the value of $9^{\frac{1}{2}}+9^{0}$

 **ANS: 4**

**26.** The reciprocal of $2^{-3}$ is$ 2^{n}$. What is the value of$ n?$

 **ANS: 3**

**27**. The distance of Saturn from the Sun is 1507million kilometers. Express 1507million in

 standard form.

  **ANS:** $1.507×10^{9}$

**28**. Find the fraction which is exactly halfway between $\frac{5}{9}$ and $\frac{8}{9}$

  **ANS:** $\frac{13}{18}$

**29.** In a school JETS election, John received 220 votes. This was 55% of the total number of

 votes. Find the total number of votes.

 **ANS: 400 votes**

**30.** Given that$ y=18+3x^{2}$, express x in terms of y.

 **ANS:** $x=\sqrt{\frac{y-18}{3}}$

**31**. T varies inversely as V.Given that the constant of proportionality is 30, find the value of

 V when T = 60.

 **ANS: 0.5 or** $\frac{1}{2}$

**32.** On a particular day in Muchinga province, the temperature was -130c.After eight hours,

 the temperature increased to 90c.What is the increase in temperature?

 **ANS: 220C.**

**33.** The Ngoni boy knows from experience that the probability of killing a big rat from his

 trap is 0.08. When two rats are trapped find the probability that both are big expressed

 in standard form

 **Answer: 6.4 X 10-3**

**34**. Calculate the Gradient at the curve for the line y = 2x2 - 4x passing through x = 4

 **Answer: O**

**35.** Differeiate 3sinX with respect to X

 **Answer: 3cosX**

**36.** Insert two arimethic means between 17 and 8

 **Answer: 14 and 11**

**37.** What is the remainder when x3+4x 2-2x+1 is divided by x+2

 **Answer: 65**

**38**. Twice a number added to 13 gives 43.What is the number?

 **Answer: 15**

***END OF QUESTIONS***