

22. What fraction is equal to the probability of 16%?

- A.  $\frac{1}{4}$    B.  $\frac{8}{100}$    C.  $\frac{16}{50}$    D.  $\frac{4}{25}$    E.  $\frac{4}{50}$

23. Two people are selected from a group of four people to form a committee. How many different committees can be formed?

- A. 2   B. 6   C. 8   D. 12   E. 16

24. If  $A = 6x + 10$ , and  $x$  is increased by 2, what will be the corresponding increase in  $A$ ?

- A. 2   B.  $2x$    C.  $6x$    D. 12   E.  $12x$

25. If  $a^2 = a + 2$ , then  $a^3$  equals to

- A.  $a + 4$    B.  $2a + 8$    C.  $3a + 2$    D.  $4a + 8$    E.  $27a + 8$

26. Which equation correctly shows  $r$  as the subject of  $S = 800(1 - r)$ ?

- A.  $r = \frac{800 - S}{800}$    B.  $r = \frac{S - 800}{800}$    C.  $r = 800 - S$

- D.  $r = S - 800$    E.  $r = S + 800$

27. The least number of five digits which is completely divisible by 39 is.....

- A. 10101   B. 10062   C. 10016   D. 10023   E. 10050

28. A car covers a distance of 200km in 2 hours 40 minutes, whereas a jeep covers the same distance in 2 hours. What is the ratio of their speed?

- A. 3:4   B. 4:3   C. 4:5   D. 5:4   E. 3:5

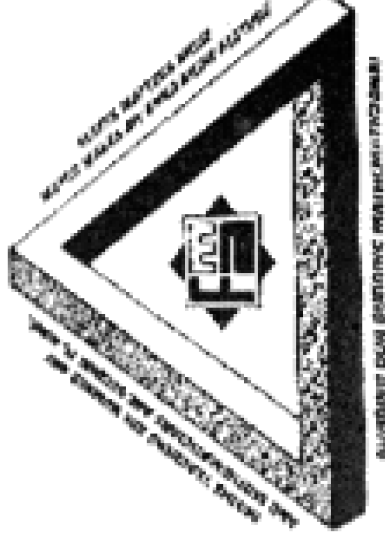
29. In the following series a wrong number is given. Find out that number? **4, 5, 10, 18, 34, 59, 95**

- A. 5   B. 10.   C. 18   D. 34   E. 59

30. What is the slope of a line perpendicular to the line  $3x + 2y = 6$  ?

- A.  $-\frac{2}{3}$    B.  $\frac{2}{3}$    C.  $-\frac{3}{2}$    D.  $\frac{3}{2}$    E. 3

# FIJI MATHEMATICS ASSOCIATION



## FIJI MATHEMATICS COMPETITION

(FMC)

YEAR 11

**Thursday 10<sup>th</sup> July 2014**

**Time Allowed: 1 Hour 15 minutes**

**Note:**

**Calculators are NOT permitted.**

**Diagrams are NOT drawn to scale.**

**Instructions:**

1. Print your **Name**, **School Name** and **Year** clearly in the space provided on the answer sheet.
2. Shade the circle corresponding to your answer with pencil on the answer sheet provided.
3. Multiple answers **will not be** accepted.

1. If  $x = 20$  and  $y = 10$  then the value of  $\frac{1}{4}xy^2$  is  
A. 75    B. 50    C. 10000    D. 500    E. 300
2.  $16 \times 4^{-1} = ?$   
A. 0    B. 4    C. 8    D. 12    E. 32
3. If  $a \times b = 3b + 2a$ , what is the value of  $3 \times -2$ ?  
A. -2    B. 2    C. 0    D. 5    E. 20
4. 101 children go on a picnic. 15 students can go in 1 bus. How many buses are needed?  
A. 7    B. 6.7    C. 8    D. 15    E. 6
5. A number is greater than 3 but less than 8. Also the number is greater than 6 but less than 10. What is the number?  
A. 5    B. 6    C. 7    D. 8    E. 9
6. Two consecutive natural numbers multiply to give 20. What are the two numbers?  
A. 2 and 10    B. 0 and 20    C. 1 and 20    D. 2 and 18    E. 4 and 5
7. 3, 9, 27, ... is a sequence. What is the next term in this sequence?  
A. 36    B. 54    C. 81    D. 90    E. 243
8. What is the value of  $u$  in  $\frac{-3u - 6}{5} > -6$  ?  
A.  $u < -8$     B.  $u > -8$     C.  $u < 8$     D.  $u > 8$     E.  $u = -8$
9. 2568m in km is  
A. 0.0002568    B. 2.568    C. 25.68    D. 2568000    E. 2568
10. The determinant of the following matrix is:  $\begin{bmatrix} 5 & 6 \\ 2 & 3 \end{bmatrix}$   
A. 3    B. 5    C. -3    D. 27    E. 0
11. What percentage is 30 of 40?  
A. 75%    B. 50%    C. 0.75    D. 133%    E. 25%
12. What is the cube root of 64 ?  
A. 3    B. 9    C.  $\frac{1}{3}$     D. 16    E. 4
13. 3 is added to a number and the result is multiplied by 4. If the answer is 16, what is the number?  
A. 0    B. 12    C. 1    D. 19    E. 5
14.  $\frac{2}{5} \div \frac{2}{25}$  equals  
A.  $\frac{1}{5}$     B. -5    C. 5    D.  $\frac{4}{100}$     E.  $\frac{1}{4}$
15. What is the sum of the first 5 square numbers?  
A. 55    B. 25    C. 91    D. 90    E. 54
16. For the festival of lights, 6 friends decide to give each other presents. How many presents are given altogether?  
A. 30    B. 12    C. 15    D. 60    E. 36
17. Today is 10<sup>th</sup> July. What was the date 150 days ago?  
A. 12<sup>th</sup> January    B. 10<sup>th</sup> February    C. 13<sup>th</sup> January  
D. 11<sup>th</sup> February    E. 9<sup>th</sup> February
18. In a fenced yard live rabbits and chickens. If you look over the fence, you can count 10 heads. If you look under the fence, you can count 28 legs. How many rabbits are there in the yard?  
A. 3    B. 4    C. 5    D. 6    E. None of these
19. In a class of 25 students, 18 students enjoy mathematics and 22 students enjoy music. If every student in the class enjoys at least one of these, how many students in the class enjoy both?  
A. 3    B. 7    C. 15    D. 20    E. None of these
20. Luke's normal rate of pay is \$24.80 per hour. In one week he worked 14 hours at the normal rate, 4 hours at time-and-a-half, and  $3\frac{1}{2}$  hours at double time. He was also paid a wet weather allowance of \$50 for the week. What was his pay for the week?  
A. \$480.00    B. \$583.20    C. \$620.40    D. \$669.60    E. \$719.60
21. The sheets of paper Ashna uses in her photocopier are 21cm by 30cm. The paper is 80 gsm, which means that one square meter of this paper has a mass of 80 grams. Ashna has a pile of this paper weighing 25.2 kg. How many sheets of paper are there in the pile?  
A. 500    B. 2000    C. 2500    D. 4000    E. 5000