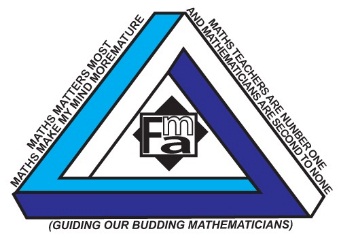
FIJI MATHEMATICS

ASSOCIATION

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**Fiji mathematics competition**

**(fmc)**

**YEAR 12**

**Thursday 23rd July 2015**

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.



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1. Which of the following is the smallest fraction?

A. B. C. D. E.

2. The next term in the sequence is:

1. 608 B. 812 C. 609 D. 612 E. 271

3. The average of 5 numbers is 4. Four of them are 1, 2, 3 and 4. What is the other number?

A. 6 B. 7 C. 8 D. 9 E. 10

4. Ronald has 3 children and one of them is a teenager. When he multiplies their ages together the result is 770. How old is the teenager?

A. 13 B. 14 C.15 D. 16 E. 17

5. The number of digits in the answer to the product is:

1. 24 B. 25 C. 26 D. 27 E. 28

6. The larger of two numbers is 3 more than twice the smaller number. If their sum is 18, what is the smaller number?

A. 3 B. 5 C. 7 D. 9 E. 11

7. After I had spent of my money and then spentof what was left, I had $15.00 remaining. How much did I start with?

A. $25 B. $75 C. $100 D. $135 E. $300

8. If for every pair of positive numbers, the value of is

1. B. C. D. E.

9. Two points on a straight line are and. If is also on the line then equals

A. 4 B. 5 C. 6 D. 7 E. 8

10. In the diagram, the value ofis

A. B. C.

D. E. 4

11. What are the coordinate of A’ if A(2,5) is transformed by the matrix M, where M =

A. (2,5) B. (-2,-5) C. (0,0) D. (2,-5) E. (-5,2)

12. Five positive integers have a mean of 5, a median of 5 and just one mode of 8. What is the difference between the largest and the smallest integers in the set?

A. 4 B. 5 C. 6 D. 7 E. 8

13. A farmer packed 52 boxes of mangoes each with the same number of mangoes in it and had 8 mangos left over. If he had packed 2 less mangos in each box, he would have filled 60 boxes. How many mangoes did he have?

1. 540 B. 480 C. 840 D. 720 E. 900

14. If is a perfect square then k equals:

A. 100 B. 25 C. 20 D. 10 E. 5

15. If has a factor then equals:

A. 1 B. 2 C. 3 D. 4 E. 6

16. If , which of the following must be true?

A. B. C.

D. E.

17. is:

A. -2 B. -1 C. 0 D. 1 E. None of these

18. If then k equals:

1. 15 B. 30 C. 40 D. 60 E. 90

19. Given 6 x + y = 36 and 6 x +5y = 216, then x is equal to:

A.  B.  C.  D.  E. 

20. The sum of the positive solution to the equation is

A. 5 B. 7 C. 8 D. 9 E. 18

21. equals

A. B. C. D. E.

22. The **vertical** asymptote of the graph of the function h(x) = 2 - is

A. B. C. D. E.

23. The remainder on dividing by x - 2 is:

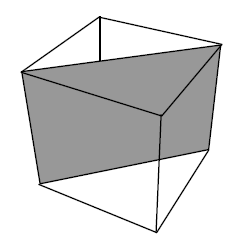
A. 0 B. 1 C. 4 D. 3 E. - 2

24. Dean runs up a mountain road at 8 km per hour. It takes him one hour to get to the top. He runs down the same road at 12 km per hour. How many minutes does it take him to run down the mountain?

A. 30 B. 40 C. 45 D. 50 E. 90

25. Which of the following expressions gives (3 + 9 + 27 + 81)

A.  B.  C.  D.  E. 

26. A solid cube of side 2 cm is cut into two triangular prisms by a plane passing through four vertices, as shown. What is the total surface area of these two prisms?

A. B. C.

D. E.

27. The slope of the line is

1. B. C. D. E.

28. If and are positive numbers such that and , then the value of is

1. B. C. D. E .

29. which of the following is not a function?

1. B. C.

D. E.

30. If then equals

1. B. C. 3 D. 4 E.