

FIJI MATHEMATICS ASSOCIATION



FIJI MATHEMATICS COMPETITION (FMC) YEAR 8

Wednesday 6th September 2017

Time Allowed: 1 Hour 15 minutes

Note:

Calculators are NOT permitted.

Diagrams are NOT drawn to scale.

Instructions:

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

Year 8

1. A regular octagon has how many equal sides?

- A. 5 B. 6 C. 7 D. 8 E. 10

2. The number 750 342 when written in words is

- A. Seven five zero three four two
B. Seventy five thousand three hundred
C. Seven hundred and fifty thousand three hundred forty two
D. Seven hundred and fifty thousand three thousand forty two
E. Seventy five hundred three and forty two

3. Write the scientific notation of 5000×1000

- A. 5×10^6 B. 5×10^4 C. 5×10^3 D. 5×10^5 E. 5×10^8

4. How many grams are there in 2 kilograms of sugar?

- A. 2 g B. 200 g C. 2000 g D. 20 g E. 20000 g

5. $7n + n - 3n = \square$

- A. $5n$ B. $5n^2$ C. $8n$ D. $4n$ E. $6n$

6. $3a \times 2b \times 4c \times d = \square$

- A. $10abcd$ B. $6abc$ C. $24abd$ D. $24abcd$ E. $8abcd$

7. The **volume** of a cube with side 3cm is

- A. 9 cm^3 B. 27 cm C. 27 cm^3 D. 6 cm^3 E. 18 cm^3

Use the following information to answer **Question 8 and 9**

Set P = {-5, -3, -1, 0, 1, 2} and Set Q = {0, 1, 2, 3, 4}

8. Which is the smallest integer in set P?

- A. 0 B. -5 C. -1 D. 1 E. 2

9. $P \cap Q =$

- A. {0, 1, 2} B. {0, 1} C. {0, 1, 2, 3} D. {-5, -4, -3, -1} E. { }

10. Marika boarded 6.45 am school bus and reached school after one and half hours. The time he arrived at school was

- A. 8.00 am B. 7.30 am C. 7.45 am D. 8.15am E. 8.30 am

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11. Arrange the numbers 36, 0, 12, -29, 21, -7 in ascending order.

- A. 36, 21, 12, 0, -7, -29 B. -29, -7, 0, 12, 21, 36 C. 36, -29, 0, -7, 21, 12
D. -7, 36, 12, -29, 21, 0 E. 0, -7, 12, 21, 36, -29

12. William gave \$43 715 to each of his three sons. What is the total amount that he shared?

- A. \$43 715 B. \$131 115 C. \$87 430 D. \$131 145 E. \$131 715

13. $6 \div 2(1 + 2)$

- A. 1 B. 9 C. 3 D. 6 E. 12

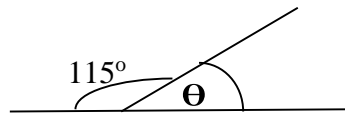
14. The number halfway between $\frac{1}{4}$ and $\frac{1}{16}$ is

- A. $\frac{5}{32}$ B. $\frac{1}{8}$ C. $\frac{5}{16}$ D. $\frac{1}{12}$ E. $\frac{7}{32}$

15. In a survey of 4000 radio listeners, two fifth of the listeners are males. What **percentage** of listeners are females?

- A. 5 % B. 10 % C. 25 % D. 60 % E. 40 %

16. The size of angle marked θ is

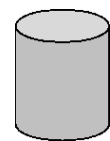


- A. 65° B. 60° C. 105° D. 75° E. 80°

17. The formula for calculating the volume of **a cylinder** is

- A. $\frac{1}{2}(a + b) \times h$ B. $\frac{1}{2} \times b \times h$ C. πr^2 D. $\pi r^2 \times h$ E. $l \times w$

18. Find the volume of the cylinder shown if the radius is 2 cm and the height is 7 cm. (Use $\pi = \frac{22}{7}$)



- A. 154 cm^3 B. 44 cm^3 C. 88 cm^3 D. 616 cm^3 E. 14 cm^3

19. A survey of motor vehicles entering a service station was taken. Out of 20 vehicles surveyed, it was found that 6 stopped for fuel, 4 for tyre repair and 7 for both. How many vehicles stopped neither for fuel nor tyre repair?

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

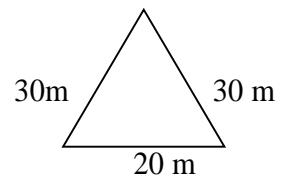
20. 0.35 in the most simplified form is:

- A. $\frac{35}{100}$ B. $\frac{7}{200}$ C. $\frac{7}{2}$ D. $\frac{7}{20}$ E. $\frac{35}{10}$

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Use the following information for **Q21, Q22 and Q23**.

Ram sami owns a triangular farm as shown.



21. What is the perimeter of the farm?

- A. 600 m B. 80 m C. 90 m D. 50m E. 60 m

22. Ram sami decides to fence the farm using 4 rows of wire. How many metres of wire is needed to fence the farm?

- A. 80 m B. 160 m C. 240 m D. 320 m E. 200 m

23. If the cost of the wire is \$8.00 per metre, calculate the total cost of wire needed to fence the farm.

- A. \$1600 B. \$2560 C. \$1920 D. \$1280 E. \$640

24. Pump A can fill a tank of water in 5 hours. Pump B can fill the same tank in 10 hours. How long does it take the two pumps working together to fill the tank?

- A. 15 hours B. 5 hours C. 4 hours D. 3 hours E. 3 hours and 10 minutes

25. What is the average of 37, 84, 63, and 56?

- A. 58 B. 50 C. 60 D. 63 E. 55

26 Calculate the simple interest for 5 years for a loan of \$20 000 at an interest of 3% per annum.

- A. \$ 30 B. \$3 000 C. \$5000 D. \$300 E. \$3500

27. What number is 12 less than 3?

- A. -9 B. 9 C. - 5 D. 15 E. -15

28. Each dimension of a cube has been increased to twice its original size. If the new cube has a volume of 64 000 cubic centimetres, what is the area of one face of the original cube?

- A. 1600 cm² B. 40 cm² C. 400 cm² D. 400 cm E. 20 cm²

29. Solve $5(3x - 2) = 35$

- A. 7 B. 4 C. -3 D.3 E. 2

30. **8x** means that **x** is multiplied **8** times. The number in front of the **term x** is called the _____.

- A. Coefficient B. Constant C. Term D. Variable E. factor