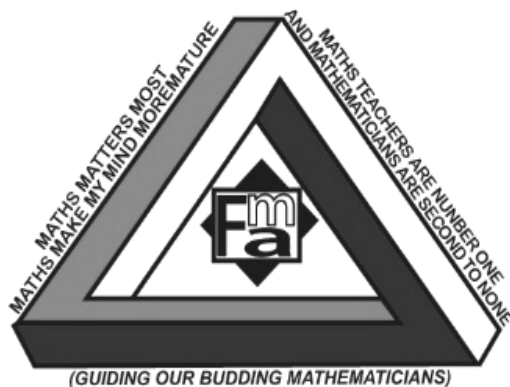


FIJI MATHEMATICS ASSOCIATION



FIJI MATHEMATICS COMPETITION (FMC) YEAR 9

Thursday 6th September 2018

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 9

1. The least common multiple (L.C.M) of 5 and 15 is

A. 5 B. 10 C. 15 D. 20 E. 25

2. The simplest number equivalent to 0.4 is

A. $\frac{2}{5}$ B. $\frac{4}{10}$ C. $\frac{40}{100}$ D. $\frac{1}{5}$ E. $\frac{1}{3}$

3. 8.552 rounded off to one decimal place is

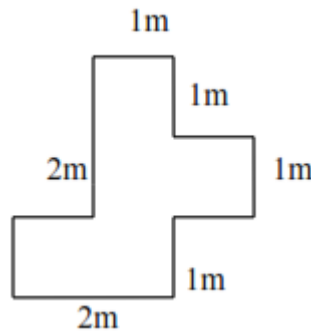
A. 8.0 B. 8.5 C. 8.55 D. 8.6 E. 8.56

4. An airplane flew 600km in one and quarter hours. The speed of the plane in km/hr is

A. 750 B. 480 C. 150 D. 2400 E. 300

5. Calculate the area of the figure given

A. 6 m^2 D. 3 m^2
B. 5 m^2 E. 7 m^2
C. 4 m^2



6. Evaluate $-2 \times (-2)^3 \div (4 - 2) \times -4$

A. 28 B. 32 C. 30 D. -32 E. 4

7. An athlete needs to drink 500 ml of liquid for every kilometer he or she runs. If 5 athletes run 10 kilometres, how many litres of liquid will they consume.

A. 5 B. 50 C. 20 D. 40 E. 25

8. A and B are operators. If $A(x) = x^2$ and $B(x) = x - 2$ then $AB(5)$ is equal to

A. 9 B. 8 C. 3 D. 0 E. 5

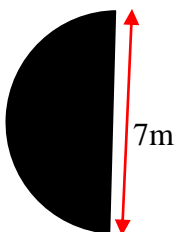
9. After cyclone Winston, the ratio of the price of bananas to papayas was 5:2. If the papayas cost \$1.50 per kg, how much did the bananas cost per kg.

A. \$0.60 B. \$ 7.50 C. \$ 3.75 D. \$ 15.00 E. \$ 8.00

10. When simplified the expression $4x^2 + 3x - x - x^2$ is equal to

A. $4x^2 + 4x$ B. $7x^2 - x$ C. $3x^2 + 2x$ D. $6x^2$ E. $4x^2 + 5x$

11. A new hotel is to have a semi-circular garden. Using $\pi = \frac{22}{7}$, Calculate the perimeter of the garden

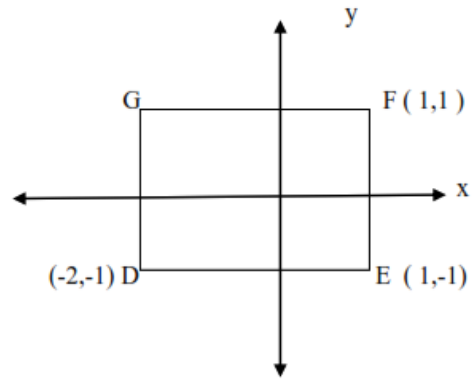


A. 29m B. 18m C. 22m D. 11m E. 18.5m

Year 9

12. DEFG is a rectangle. The coordinates of G are:

- A. $(-2,1)$
- B. $(-2,-2)$
- C. $(-2,2)$
- D. $(2,-3)$
- E. $(-3,-2)$



13. A packet of life milk is bought for \$ 1.20 and sold for 25% more. If 1000 packets are sold, find the profit.

- A. \$ 480
- B. \$ 600.00
- C. \$ 300.00
- D. \$ 150.00
- E. \$ 3000

14. Suppose that $a * b = b - a$. What is the value of $(1 * 2) * 3$?

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

15. The length of a cube has been increased 3 times. How many times has the surface area increased?

- A. 27
- B. 3
- C. 6
- D. 9
- E. area remains the same

16. If $8\frac{1}{3}$ pieces of rope, each $1\frac{1}{2}$ meters long, can be cut from a roll, how long is the roll?

- A. 12.5 m
- B. 12m
- C. 10.5m
- D. 11m
- E. 13.5m

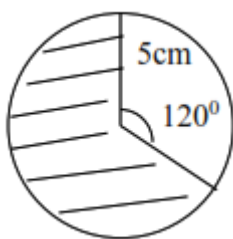
17. The solution set for $x - 3 \geq -8$, $x \in \mathbb{R}$ is

- A. $\{x: x \geq -11, x \in \mathbb{R}\}$
- B. $\{x: x \leq -5, x \in \mathbb{R}\}$
- C. $\{x: x \geq -5, x \in \mathbb{R}\}$
- D. $\{x: x \leq -11, x \in \mathbb{R}\}$
- E. $\{x: x \geq -8, x \in \mathbb{R}\}$

18. Solve for x in the equation $\frac{x-3}{4} = \frac{x}{3} + 1$

- A. - 21
- B. 21
- C. 3
- D. -3
- E. 6

19. Which expression gives the area of the shaded region below?



- A. $25 \times \pi \times \frac{120}{360}$
- B. $25 \times \pi \times \frac{240}{360}$
- C. $5 \times \pi \times \frac{240}{360}$
- D. $10 \times \pi \times \frac{240}{360}$
- E. $15 \times \pi \times \frac{120}{360}$

20. The exact value of $\left[\frac{16}{25}\right]^{\frac{1}{2}}$

- A. $\frac{2}{5}$
- B. $\frac{4}{5}$
- C. $\frac{5}{4}$
- D. $\frac{4}{25}$
- E. $\frac{8}{25}$

Year 9

21. A bucket containing 5.4L of water starts to leak. 2.75L of water leaks before the leak is discovered. The remaining water is transferred to another bucket and half a liter of water is added. How much water is in the bucket?
- A. 13.15L B. 8.65L C. 5.4L D. 6.4L E. 3.15L
22. Simplify the expression $\sqrt{\frac{81}{144}}$
- A. $\frac{9}{12}$ B. $\frac{81}{12}$ C. $\frac{3}{4}$ D. $\frac{1}{4}$ E. $\frac{4}{3}$
23. A restaurant has 12 tables set outside and another 36 inside. Which of the following number sentence solves the number of legs the tables have altogether?
- A. $12 \times 4 + 36$ B. $36 \times 4 + 12$ C. $(12 + 36) \times 4$
D. $36 + 12 \times 4$ E. $12 + 29 \times 4$
24. If $a = \frac{1}{2}$, $b = -3$ and $c = \frac{3}{4}$, the value of $\frac{a.b}{c}$ is
- A. $-\frac{10}{3}$ B. $\frac{9}{8}$ C. $-\frac{2}{3}$ D. -2 E. 2
25. Solve $(p - 2)^2 = 9$
- A. 20 B. 11 C. 7 D. 5 E. 1
26. A normal die has 6 equal faces marked with the numbers 1 to 6. If the die is thrown once, what is the probability that the top face has an even number?
- A. $\frac{1}{6}$ B. $\frac{1}{2}$ C. $\frac{1}{3}$ D. 1 E. $\frac{5}{6}$
27. Which of the following expressions is difference of two squares?
- A. $x - 9$ B. $x^2 - \frac{1}{9}$ C. $x^2 + 9$ D. $x + 9$ E. $x^2 - 9x$
28. Anjelin spent \$42 for a pair of shoes. This was \$14 more than the amount she spent for a dress. She also bought a handbag which was half the price of the price of the shoes. What was the total amount she spent?
- A. \$90 B. \$105 C. \$91 D. \$100 E. \$84
29. Simplify $\frac{54m^5n^6}{6m^3n^2}$
- A. $9m^8n^8$ B. $9m^6n^6$ C. $12m^2n$ D. $9m^2n^4$ E. $12mn$
30. The graph of $5 = 2y + 4x$ cuts the x axis at point A and the y axis at point B.
Find the coordinates of point A.
- A. $(0, \frac{5}{4})$ B. $(0, \frac{5}{2})$ C. $(\frac{5}{2}, 0)$ D. $(\frac{5}{4}, 0)$ E. $(\frac{5}{2}, \frac{5}{4})$