

FIJI MATHEMATICS ASSOCIATION



FIJI MATHEMATICS COMPETITION (FMC) YEAR 9

Thursday 1st September 2016

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. 0.005 when expressed as a fraction is:

- A. $\frac{1}{100}$ B. $\frac{1}{200}$ C. $\frac{1}{500}$ D. $\frac{1}{1000}$ E. $\frac{1}{2000}$

2. $(-4)^2 \times m^4 \times m^3$ when simplified is:

- A. $-16m$ B. $-16m^7$ C. $16m^7$ D. $8m^7$ E. -8

3. $15 + 9 \div 3 - 2$ is equal to

- A. 6 B. -16 C. 16 D. -6 E. 0

4. If $a = 3$, $b = -1$, $c = 6$, find the value of $ac - b^2$

- A. 19 B. -3 C. -33 D. 17 E. -39

5. 3012g is equal to

- A. 3012 kg B. 301.2kg C. 30.12kg D. 3.012kg E. 0.3012kg

6. 16.9824 rounded off to two decimal places is

- A. 16.93 B. 16.90 C. 16.99 D. 17.00 E. 16.98

7. The line that is parallel to the y - axis and passes through the point $(-2,1)$ is :

- A. $x = -2$ B. $x = 1$ C. $y = 1$ D. $x = 0$ E. $y = 0$

8. At a local market, the ratio of the price of apples to oranges is 5: 4.If the apples cost \$1.50 per kg, how much do the oranges cost per kg?

- A. \$0.60 B. \$0.30 C. \$2.50 D. \$1.90 E. \$1.20

9. An aeroplane flew 750km in one and a half hours. The speed of the plane in km/hr is

- A. 1125 km/hr B. 500km/hr C. 400 km/hr D. 480 km/hr E. 0.15 km/hr

10. Sanjay carried out a task in form 303. He made a cube whose volume is $\frac{1}{125} \text{ m}^3$. Find the length of its sides.

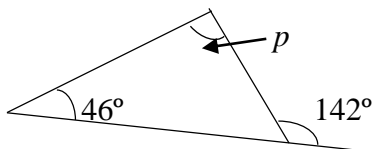
- A. $\frac{1}{2} \text{ m}$ B. $\frac{1}{3} \text{ m}$ C. $\frac{1}{4} \text{ m}$ D. $\frac{1}{5} \text{ m}$ E. $\frac{1}{6} \text{ m}$

11. Find the reciprocal of $-3\frac{1}{8}$.

- A. $-\frac{25}{8}$ B. $-\frac{8}{23}$ C. $\frac{25}{8}$ D. $-\frac{8}{25}$ E. $\frac{8}{25}$

Year 9

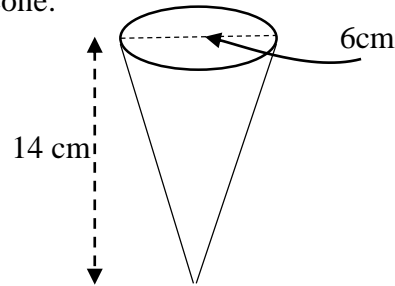
12. How many pieces of $\frac{2}{5}$ meter long pieces can you cut from a 120m rope?
A. 300 pieces B. 200 pieces C. 100 pieces D. 50 pieces E. 48 pieces
13. A packet of 1 liter milk is bought for \$2.50 and sold for 20% less. How much would one pay for 45 packets of milk?
A. \$45 B. \$60 C. \$70 D. \$ 80 E. \$90
14. When simplified the expression $6x^2 - 2x + x$ is equal to
A. $4x^2 + x$ B. $6x^2 - x$ C. $6x^2 - 3x$ D. $5x^2$ E. $9x^2$
15. What is the name given to a nine – sided figure?
A. nonagon B. octagon C. decagon D. dodecagon E. heptagon
16. $\frac{36m^5n^6}{4m^3n^2}$ in simplified form is
A. $9m^8n^8$ B. $9m^6n^6$ C. $12m^2n$ D. $9m^2n^4$ E. $12mn$
17. The ratio of boys to girls in a Year 9 is 4:5. If there are 45 students in the class, how many girls are there?
A. 20 B. 35 C. 25 D. 20 E. 15
18. When simplified $5x - 3(x+1) - 2$ gives
A. $2x + 5$ B. $2x - 5$ C. $2x - 3$ D. $8x - 5$ E. $8x - 3$
19. A \$25 shirt has been discounted to \$19. The discount expressed as a percentage of the original price is:
A. 24% B. 20% C. 25% D. 32% E. 76%
20. Find the size of the angle marked p .



- A. 90° B. 48° C. 100° D. 46° E. 96°

Year 9

21. Given below is a cone:



Find the volume of the cone using $\pi = \frac{22}{7}$.

- A. 396 cm^3 B. 132 cm^3 C. 44 cm^3 D. 100 cm^3 E. 198 cm^3
22. Convert $\frac{5}{8}$ of an hour to seconds
 A. 6300 sec B. 3600 sec C. 105 sec D. 2250 sec E. 2700 sec
23. What is the value of 3^5 ?
 A. 15 B. 27 C. 81 D. 125 E. 243
24. A new hotel is to have a semi – circular garden. Using $\pi = \frac{22}{7}$, what is the area of the garden if the diameter is 14m?
 A. 308 m^2 B. 405 m^2 C. 28 m^2 D. 77 m^2 E. 154 m^2
25. Which of the following is incorrect?
 A. $-2 < 0$ B. $-3 > -1$ C. $|-3| = |3|$ D. $|-2+1| < 6$ E. $-5 < 3$
26. Simplify the expression: $\left(\frac{-3}{8}\right)^2$
 A. $\frac{9}{64}$ B. $\frac{-9}{64}$ C. $\frac{6}{16}$ D. $\frac{-6}{16}$ E. $\frac{64}{9}$
27. \$450 will be shared by 3 friends in the ratio 1:3:5. What is the most amount a friend will get?
 A. \$ 90 B. \$ 150 C. \$ 250 D. \$300 E. \$350
28. If 4% of a number is 15, then what is the number?
 A. 0.6 B. 60 C. 600 D. 750 E. 375
29. How many factors does the number 48 has?
 A. 8 B. 10 C. 12 D. 15 E. 20
30. What is the value of x in the equation: $\frac{x-1}{3} = \frac{x}{4}$?
 A. -2 B. 2 C. 4 D. -4 E. 0