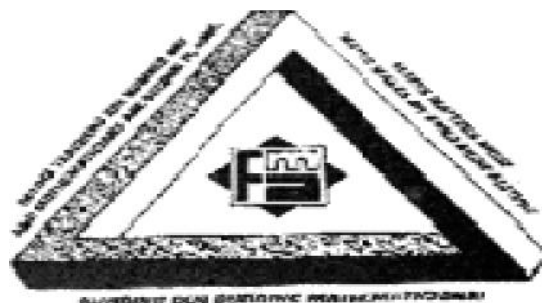


FIJI MATHEMATICS ASSOCIATION



FIJI MATHEMATICS COMPETITION

(FMC)

FORM 4

Thursday 11th July 2013

Time Allowed: 1 Hour 15 minutes

Note:

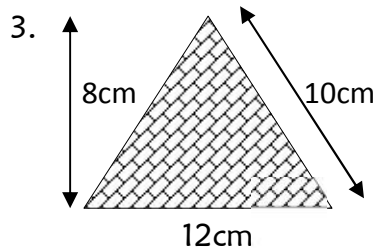
Calculators are NOT permitted.

Diagrams are NOT drawn to scale.

Instructions:

1. Print your **Name, School Name** and **Form** 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. $2 + 3 \times 4 - 1$ is equal to
A. 19 B. 23 C. 13 D. 11 E. 15
2. Which of the following are like terms?
A. $3x^2$ and $4y^2$ B. $2xy$ and $5xy$ C. $3x$ and $3x^2$
D. $7y$ and $4yz$ E. $3x$ and $3y$



The area of the triangle given is

- A. 60 cm^2 B. 48 cm^2 C. 96 cm^2
D. 40 cm^2 E. 30 cm^2

4. Given that $\frac{x}{9} = \frac{1}{3}$, x is equal to
A. 27 B. 18 C. 36 D. 3 E. 1

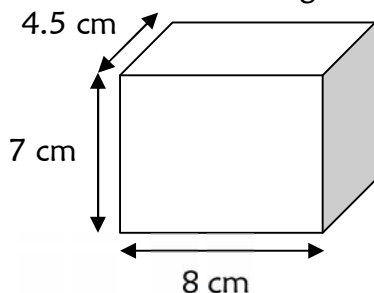
5. Evaluate $2^3 \times 3^2$
A. 36 B. 72 C. 54 D. 56 E. 30

6. Which of the following inequalities is represented by the graph below:



- A. $-3 \leq x \leq 2$ B. $-3 < x \geq 2$ C. $-3 < x \leq 2$ D. $-3 \leq x < 2$
E. $2 \leq x \leq -3$
7. If $a = \frac{1}{2}$, $b = -3$ and $c = \frac{3}{4}$, the value of $\frac{ab}{c}$ is
A. $\frac{-10}{3}$ B. $\frac{-9}{8}$ C. $\frac{-2}{3}$ D. -4 E. -2
 8. An aeroplane flew 600 km in $1 \frac{1}{4}$ hours. Its speed was:
A. 480 km/h B. 150 km/h C. 750 km/h D. 2400 km/h
E. 300 km/h

9. The volume of the cuboid given below is



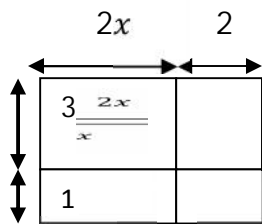
- A. 252 cm^3 B. 25.2 cm^3
C. 2520 cm^3 D. 224 cm^3
E. 225 cm^3

10. $|11 - 13| - |4 - 12|$ is equal to
A. 6 B. -10 C. -6 D. 10 E. -18

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

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

12. The expression that best gives the area of the rectangle is

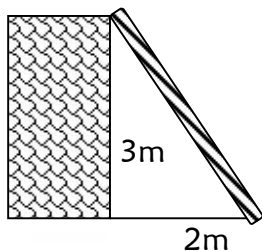


- A. $4x \times 3x$ B. $(2x + 2)(3x + 1)$
C. $(2x + 2)(3x)$ D. $6x + 2$
E. $6x^2 + 6x + 2$

13. When $(3x - 5)(3x + 5)$ is expanded using the identity $(x + y)(x - y) = x^2 - y^2$ gives

- A. $9x^2 - 25$ B. $6x^2 - 25$ C. $6x^2 - 10$ D. $9x^2 + 25$
E. $3x^2 - 25$

14. A ladder whose foot is 2m from a wall reaches 3m up the wall above the ground. The length of the ladder is:



- A. 13 m B. 5 m
C. $\sqrt{5}$ m D. $\sqrt{13}$ m
E. 6 m

15. $\frac{(4m^3n^2)^3}{(2mn)^4}$ when simplified is

- A. $3m^5n^2$ B. $3m^2n^2$ C. $64m^5n^2$ D. $4m^2n^2$ E. $4m^5n^2$

16. $5x^0 + 7x^0 - 3m^0$ is equal to

- A. 9 B. $12 - 3m$ C. $12x - 3m$ D. $9x$ E. $9xm$

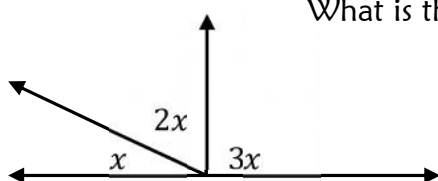
17. When 12 is subtracted from a number, the result is 27. The number is

- A. 15 B. 39 C. -15 D. -39 E. 49

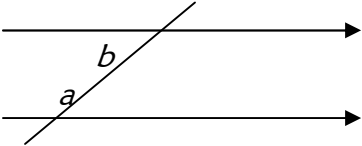
18. The solution of the inequation $-2x + 3 \geq 7$ is,

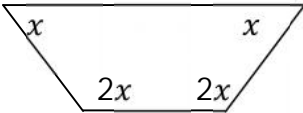
- A. $x \geq -2$ B. $x \geq -5$ C. $x \leq -2$ D. $x \leq -5$ E. $x \leq 2$

19. What is the value of the angle marked $2x$ in the given figure



- A. 30° B. 60°
C. 90° D. 120°
E. 180°

20. How many pieces of string $1\frac{2}{3}$ of a metre long can you cut from a 50m roll?
 A. 15 B. 20 C. 25 D. 30 E. 40
21. Five out of six whole numbers are 22, 18, 13, 22 and 20. If the mean is 18, then the sixth number is
 A. 7 B. 13 C. 18 D. 22 E. 20
22. The median of the following data is
 7, 5, 11, 6, 7, 3
 A. 3 B. 6 C. 6.5 D. 7 E. 11
23. 3 is added to a number and the result is multiplied by 4. If the answer is 16, the number is
 A. 5 B. 4 C. 1 D. 2 E. 3
24. In the diagram below, the relationship between angles a and b is:

 A. $a = b$ B. $a - b = 180$
 C. $a + b = 180$ D. $180 + a = b$
 E. $180 + b = a$
25. The lengths of the sides of a triangle are $3x$, $4x$ and $5x$. What is the length of the longest side if the perimeter of the triangle is 72 cm?
 A. 6 cm B. 18 cm C. 24 cm D. 30 cm E. 32 cm
26. The equation of the line parallel to the x -axis and passing through the point (0, -2) is
 A. $y = x + 2$ B. $x = -2$ C. $y = 2$ D. $x = 2$ E. $y = -2$
27. Pita leaves Ba bus station at 10.15 am and reaches Suva bus station at 3.00 pm. How long was his journey?
 A. 5 hr B. 4 hr 45 min C. 4 hr 30 min D. 4 hr E. 6 hr
28. A handyman who is paid \$2.50 an hour, worked for 28 hours normal, and 5 hours double time in a week. His income for the week will be
 A. \$70 B. \$82.50 C. \$90 D. \$95 E. \$100

29.  The value of x in the polygon given on the left is

- A. 60° B. 360° C. 120° D. 240° E. 150°
30. Luisa wants to buy sulu. If she buys 7 meters, she is 1 dollar short. If she buys 5 meters, 5 dollars is left over. How much does she have?
 A. \$25 B. \$15 C. \$21 D. \$20 E. \$10