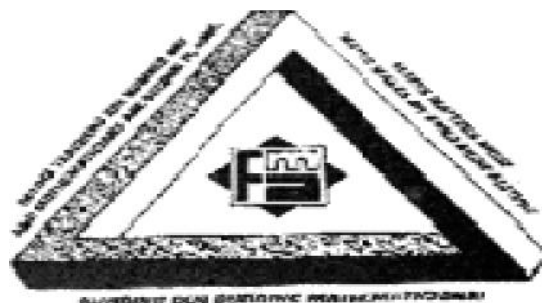


FIJI MATHEMATICS ASSOCIATION



FIJI MATHEMATICS COMPETITION

(FMC)

FORM 3

Thursday 11th July 2013

Time Allowed: 1 Hour 15 minutes

Note:

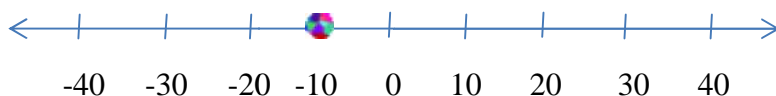
Calculators are NOT permitted.

Diagrams are NOT drawn to scale.

Instructions:

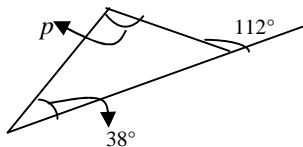
1. Print your **Name, School Name** and **Form** clearly in the space provided on the answer sheet.
2. Shade the circle corresponding to your answer with pencil on the answer sheet provided.
3. Multiple answers **will not be** accepted.

1. The position of the ball is -10m. If Annie kicks the ball 40m right, what will be the position of the ball?



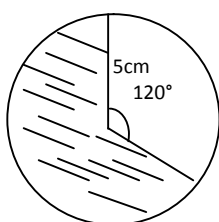
- A. -30m B. 30m C. -40m D. 40m E. 0m
2. $(-3)^2 \times b^3 \times b^5$ when simplified is:
- A. $-9b^2$ B. $9b^8$ C. $-9b^8$ D. $6b^8$ E. $6b^2$
3. $18 + 6 \div 3 - 5$ is equal to
- A. 6 B. 3 C. 15 D. -15 E. 0
4. If $a = -4$, $b = 2$, $c = 5$, find $\frac{a^2c}{b}$
- A. -80 B. 80 C. 6 D. 40 E. -40
5. 4076g is equal to
- A. 4076 kg B. 407.6kg C. 40.76kg D. 4.076kg E. 0.4076kg
6. 5.673 rounded off to one decimal place is
- A. 5.0 B. 5.6 C. 5.67 D. 5.7 E. 6.0
7. The line that is parallel to the x - axis and passes through the point $(-3, 4)$ is :
- A. $x = -3$ B. $y = -3$ C. $y = 4$ D. $x = 4$ E. $y = 0$
8. At a local market, the ratio of the price of bananas to pawpaws is 5: 3. If the pawpaws cost \$1.50 per kg, how much do the bananas cost per kg?
- A. \$0.60 B. \$0.75 C. \$2.50 D. \$2.80 E. \$4.00
9. An aeroplane flew 600km in one and a half hours. The speed of the plane in km/hr is
- A. 750 km/hr B. 2.5km/hr C. 900 km/hr D. 480 km/hr E. 400 km/hr
10. Sanjay carried out a task in form 303. He made a cube whose volume is $\frac{1}{64} m^3$. Find the length of its sides.
- A. $\frac{1}{2} m$ B. $\frac{1}{3} m$ C. $\frac{1}{4} m$ D. $\frac{1}{5} m$ E. $\frac{1}{6} m$
11. Find the reciprocal of $-2\frac{6}{7}$
- A. $-\frac{8}{7}$ B. $-\frac{20}{7}$ C. $-\frac{7}{8}$ D. $-\frac{7}{20}$ E. $\frac{7}{20}$

12. How many pieces of $\frac{3}{4}$ meter long pieces can you cut from a 72m rod?
- A. 96 pieces B. 54 pieces C. 48 pieces D. 100 pieces E. 0.75 pieces
13. A packet of 1 liter milk is bought for \$1.50 and sold for 30% less. How much would one pay for 40 packets of milk?
- A. \$40 B. \$60 C. \$42 D. \$ 18 E. \$20
14. When simplified the expression $4x^2 + 3x - x$ is equal to
- A. $4x^2 + 4x$ B. $7x^2 - x$ C. $4x^2 + 2x$ D. $6x^2$ E. $5x^2$
15. What is the name given to a ten – sided figure?
- A. nonagon B. octagon C. decagon D. dodecagon E. heptagon
16. $\frac{48p^4q^2}{8pq}$ in simplified form is
- A. $6p^3q$ B. $6p^5q^3$ C. $12p^2q$ D. p^3q E. $6p^{-3}q^{-1}$
17. The ratio of boys to girls in form 301 is 3:5. If there are 40 students in the class, how many boys are there?
- A. 20 B. 35 C. 37 D. 25 E. 15
18. When simplified $7x - 2(x + 3) - 5$ gives
- A. $5x - 11$ B. $5x + 11$ C. $5x - 1$ D. $9x - 11$ E. $5x + 11$
19. A \$40 shirt has been discounted to \$30. The discount expressed as a percentage of the original price is:
- A. 10% B. 20% C. 25% D. 30% E. 75%
20. Find the size of the angle marked p .



- A. 74° B. 64° C. 112°
D. 30° E. 90°

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



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

22. Convert $1\frac{3}{4}$ hours to seconds
- A. 6300 sec B. 3600 sec C. 105 sec D. 3645 sec E. 2700 sec
23. How long will it take to count one thousand two hundred at the rate of one number per second?
- A. $\frac{1}{3}$ hour B. $\frac{1}{2}$ hour C. $\frac{3}{4}$ hour D. $\frac{1}{4}$ hour E. $\frac{2}{3}$ hour
24. A new hotel is to have a semi – circular garden. Using $f = \frac{22}{7}$, what is the perimeter of the garden if the diameter is 7m?
- A. 29m B. 18m C. 22m D. 11m E. 18.5m
25. Which of the following is incorrect?
- A. $-7 < 0$ B. $2 > -3$ C. $|-2| = |2|$ D. $|-2+3| > 5$ E. $0 > -7$
26. Simplify the expression: $\sqrt{\frac{81}{121}}$
- A. $\frac{9}{12}$ B. $\frac{9}{11}$ C. $\frac{11}{9}$ D. $\frac{8}{12}$ E. $\frac{12}{9}$
27. In your electricity bill, the FEA charges \$ 8.51 for a 34 kilowatt hours of electricity. What is the FEA's charge per kilowatt-hour?
- A. \$ 0.25 B. \$ 0.22 C. \$ 10.25 D. \$ 10.22 E. \$ 1.25
28. The mean of 12 scores is 5. A 13th score of 18 is added. What is the new mean?
- A. 12.5 B. 12 C. 7 D. 5 E. 6
29. If 3% of a number is 12, then what is the number?
- A. 36 B. 33.3 C. 360 D. 400 E. 200
30. What is the value of x in the equation: $\frac{x-3}{4} = \frac{x}{3} + 1$?
- A. -21 B. 21 C. 3 D. -3 E. 6