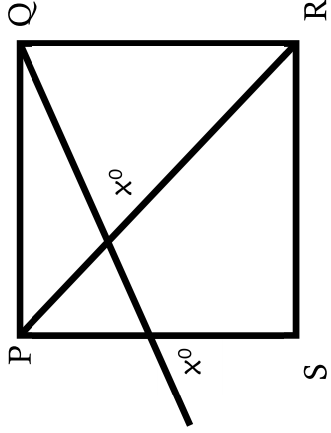


- 22) In the diagram, $PQRS$ is a square. The value of x is



- A) 45
B) 60
C) 67.5
D) 75
E) 82.5

- 23) I can ride my bike 3 times as fast as Kaka can jog. Kaka starts 40 minutes before me and then I chase him. How long does it take me to catch Kaka?

- A) 20 min B) 30 min C) 40 min D) 50 min E) 60 min

- 24) The measures of angles A, B and C of a triangle are in the ratio 4:5:3. What is the size for the smallest angle?

- A) 15° B) 30° C) 45° D) 60° E) 75°

- 25) If $p\%$ of q is k , then $q\%$ of p is

- A) $\frac{k}{100}$ B) $\frac{pq}{200}$ C) $\frac{pk}{100}$ D) $\frac{qk}{100}$ E) k

- 26) Natasha buys 4 double icecreams and 2 single icecreams and pays \$16. The next day she buys 2 double icecreams and 4 single icecreams and pays \$14. The cost of a double icecream is

- A) \$1.50 B) \$2.00 C) \$2.50 D) \$3.00 E) \$3.50

- 27) Of the 80 students in class, 25 are studying Hindi, 15 French and 13 Spanish. 3 are studying Hindi and French; 4 are studying French and Spanish; 2 are studying Hindi and Spanish; and none is studying all 3 languages at the same time. How many students are not studying any of the three languages?

- A) 7 B) 18 C) 53 D) 62 E) 36

- 28) A number is added to one third of itself. The result is 36. What is the number?

- A) 9 B) 18 C) 15 D) 24 E) 27

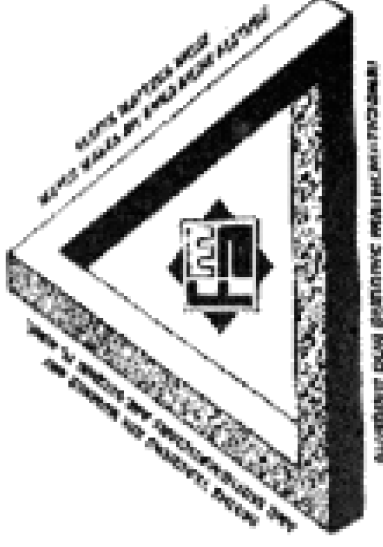
- 29) Mum, Dad and their two children arrive at a river where there is a boat that will hold one adult or two children. What is the minimum number of trips across the river in either direction to get the family across?

- A) 7 B) 9 C) 11 D) 13 E) 15

- 30) When Kali recently visited Latvia, one Latvian *lat* was worth \$US1.50, while \$A1 was worth \$US0.60. In this case, a Latvian *lat* was worth

- A) \$A1.80 B) \$A2.50 C) \$A2.75 D) \$A2.00 E) \$A3.00

FIJI MATHEMATICS ASSOCIATION



FIJI MATHEMATICS COMPETITION

(FMC)

YEAR 10

Thursday 10th July 2014

Time Allowed: 1 Hour 15 minutes

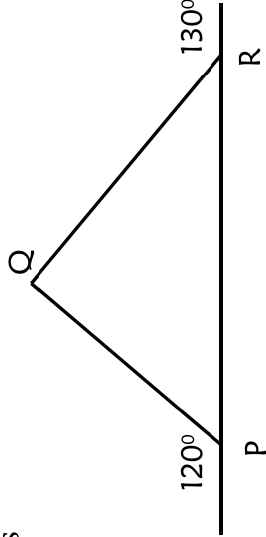
Note:

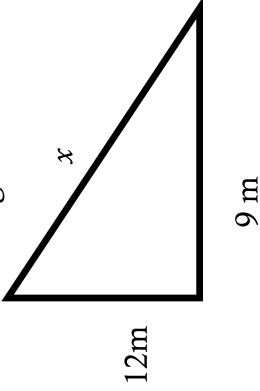
Calculators are NOT permitted.

Diagrams are NOT drawn to scale.

Instructions:

1. Print your **Name**, **School Name** and **Year** 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) If $x + 6 = 10$, then what is the value of $3x + 1$
A) 4 B) 9 C) 12 D) 13 E) 49
- 2) Mr Jale drove 54 kilometers in 45 minutes. What is his average speed in kilometers per hour?
A) 48 B) 60 C) 72 D) 75 E) 84
- 3) $\frac{x + 4}{x^2 - 16}$ when simplified is:
A) $x - 16$ B) $x + 4$ C) $x - 4$ D) $\frac{1}{x + 4}$ E) $\frac{1}{x - 4}$
- 4) 0.00369 in standard form is
A) 0.0369×10 B) 0.369×10^{-2} C) 3.69×10^{-3} D) 3.69×10^3 E) 36.9×10^{-3}
- 5) The value of 8×3.3 is
A) 24.24 B) 24.4 C) 25.4 D) 26.24 E) 26.4
- 6) 20 is increased to 50. What is the percentage increase?
A) 20% B) 40% C) 60% D) 67% E) 150%
- 7) Sally has \$20 of her pocket money left after 3 weeks, having spent just \$1 on a drink. How much pocket money does she get each week?
A) \$5 B) \$7 C) \$9 D) \$20 E) \$21
- 8) $5x - 3 - (3 - 5x)$ equals
A) 0 B) $10x$ C) 6 D) $10x - 6$ E) $6x$
- 9) In the diagram, the size of $\angle PQR$ is
A) 40°
B) 50°
C) 60°
D) 70°
E) 80°

- 10) Three – fifths of a number is 48. What is the number?
A) 54 B) 60 C) 64 D) 80 E) 84
- 11) There are 15 balls in a box: 8 balls are green, 4 are blue and 3 are white. Then 1 green and 1 white balls are taken from the box and put away. What is the probability that a blue ball is selected at random from the box?
A) $\frac{3}{13}$ B) $\frac{4}{15}$ C) $\frac{3}{15}$ D) $\frac{4}{13}$ E) $\frac{2}{13}$

- 12) By what number must 6 be divided to obtain $\frac{1}{3}$ as a result?
A) 18 B) $\frac{1}{2}$ C) $\frac{1}{18}$ D) 2 E) 9
- 13) The average of the five numbers $x, 1, \frac{1}{2}, \frac{1}{3}$ and $\frac{1}{4}$ is 1. The value of x is
A) $\frac{1}{5}$ B) $\frac{2}{3}$ C) $\frac{11}{5}$ D) $\frac{22}{12}$ E) $\frac{35}{12}$
- 14) When graphed in the (x,y) coordinate plane, at what point do the lines $2x + 3y = 5$ and $x = -2$ intersect?
A) (-2,0) B) (-2,5) C) (2,-3) D) (-2,-5) E) (-2,3)
- 15) $F(x) = x^2 - 8x$. Find $F(-3)$
A) -42 B) -33 C) -15 D) 15 E) 33
- 16) Five positive integers have a mean of 10, a median of 10 and only one mode, which is 12. What is the difference between the largest and the smallest of these numbers?
A) 3 B) 5 C) 6 D) 7 E) 8
- 17) Solve for x in $\frac{x+4}{x-3} = 0$
A) -4 B) -3 C) 0 D) 3 E) 4
- 18) What is the length of the side marked x ?

A) 225
B) 25
C) 16
D) 15
E) 13
- 19) If $750 \times 45 = p$ then 750×44 equals
A) $p - 45$ B) $p - 750$ C) $p - 1$ D) $44p$ E) $750p$
- 20) In a shipment of Nokia mobile phones, 1/100 of the phones are defective. What is the ratio of defective to non-defective mobile phones?
A) $\frac{1}{400}$ B) $\frac{1}{100}$ C) $\frac{1}{99}$ D) $\frac{99}{1}$ E) $\frac{100}{1}$
- 21) Which one of the following cannot be an even number for any integer value of n ?
A) $2n$ B) $3n + 2$ C) $4n + 1$ D) $2(n - 1)$ E) $2(n + 1)^2$