



UNICUS OLYMPIADS

Sample Paper

Class 5

Unicus Non-Routine Mathematics Olympiad



Section	Total Questions	Marks per Questions	Total Questions
Classic Section	10	3	30
Scholar Section	10	6	60
Grand Total	20		90

Classic Section (Each Question is 3 Marks)

1. How many km does a bicycle wheel of radius 30 cm cover in 70 revolutions?

- a. 0.0132 km
c. 13.2 km
- b. 1.32 km
d. 0.132 km

2. x packets of 6 sweets each one divided equally among 10 children. How many sweets does each child get?

- a. 6x
c. $3x/5$
- b. $6x - 10$
d. $3x - 5$

3. The length and breadth of a rectangular plot are l and b. Two rectangular paths each of width 'w' run inside the plot one parallel to the breadth and the second parallel to the length. What is the total area of the paths?

- a. $(l + w)(b + w) - lb$
c. $(l + b - w)w$
- b. $lb - (l - w)(b - w)$
d. $lb - (l - 2w)(b - 2w)$

4. In an examination 96% of the candidates passed and 50 failed. What is the number of candidates who appeared for the examination?

- a. 1520
c. 1530
- b. 1250
d. 1350

5. When a number is reduced by 4, it becomes 80% of itself. Find the number.

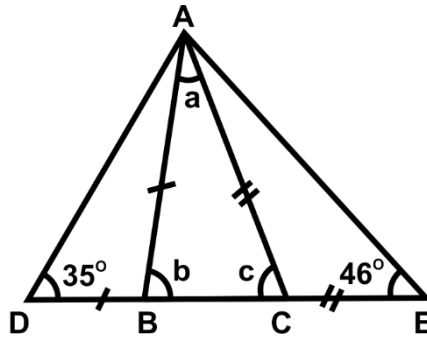
- a. 20
c. 40
- b. 30
d. 50

6. What is the mean of x, x + 3, x + 6, x + 9 and x + 12?

- a. x + 3
c. x + 9
- b. x + 6
d. x + 12

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7. In the given figure, what are the values of $\angle b$, $\angle c$ and $\angle a$ respectively?



- a. 18° , 70° , & 92° b. 92° , 70° , & 18°
c. 70° , 92° , & 18° d. 70° , 18° , & 92°
-

8. The sum of the interior angles of the regular pentagon is _____.

- a. 640 b. 740
c. 540 d. 620
-

9. The value of $0.\overline{23} \times 1000$ is:

- a. 23.(23) b. 232.(32)
c. 2.(32) d. 232.32
-

10. If $P = A \times B$ and $Q = C \times D$ where $2A = 3B = 4C = 6D = 24$ then $P/(Q \times 5)$ is _____.

- a. $2/5$ b. $3/5$
c. $4/5$ d. $1/5$
-

Scholar Section (Each Question is 6 Marks)

11. A car travels 120 km from A to B at 30 km/hr but returns the same distance at 40 km/hr. The average speed for the round trip is closest to:

- a. 33 km/hr b. 34 km/hr
c. 35 km/hr d. 35 km/hr
-

12. The sum of 10 observations is 250. If one observation, 25 is deleted, what is the new mean?

- a. 25 b. 20
c. 28 d. 22
-

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13. If $(x + 1/x)^2 - 2(x + 1/x)(x - 1/x) + (x - 1/x)^2$ is simplified as:

- a. $8/x^2$
b. $16/x^2$
c. $4/x^2$
d. $2/x^2$
-

14. $A = Px^a \cdot y^b$, $B = Qx^c \cdot y^d$ where $a = 2b = 3c = 4d = 12$, $P = 3Q = 12$, then $A \div B$ is:

- a. $3x^8 \cdot y^3$
b. $3x^3 \cdot y^8$
c. $3x^2 \cdot y^3$
d. $3xy$
-

15. If $(1 + x + x^2)/(1 - x + x^2) = 13(1 + x)/14(1 - x)$, then $x =$ _____.

- a. $1/3$
b. 3
c. $2/3$
d. $3/2$
-

16. The number of seats for admission is increased by 10% every year. The number of seats in 2001 was 400. What was the number of seats in 2003?

- a. 824
b. 484
c. 500
d. 480
-

17. If $4L + 2B + 3H = 228$ m, where $L : B : H = 3 : 2 : 1$, then the area of four walls _____.

- a. 1480 m^2
b. 1440 m^2
c. 1460 m^2
d. 1420 m^2
-

18. The area of the parallelogram is 60 cm^2 base is 12 cm then the distance between the parallel sides is _____.

- a. 10 cm
b. 3 cm
c. 5 cm
d. 12 cm
-

19. The number of pieces obtained when $1 \frac{3}{4}$ meters can be cut from a roll of ribbon of length 56 meters are $30 + x$. then $x =$ _____

- a. 1
b. 2
c. 4
d. 6
-

20. $(\frac{1}{4}$ of $2 \frac{2}{7}$) when multiplied by $6 \frac{3}{10} \times 2 \frac{1}{7} \times \frac{35}{9}$ gives A and if $B = 5/6$. then A/B is _____.

- a. $2^2 \times 3^2$
b. $2^3 \times 3^2$
c. $2^2 \times 3^3$
d. 2×3^4
-

Answer Key

1.	d	2.	c	3.	c	4.	b	5.	a	6.	b	7.	c
8.	c	9.	b	10.	c	11.	c	12.	a	13.	c	14.	a
15.	a	16.	b	17.	b	18.	c	19.	b	20.	a		