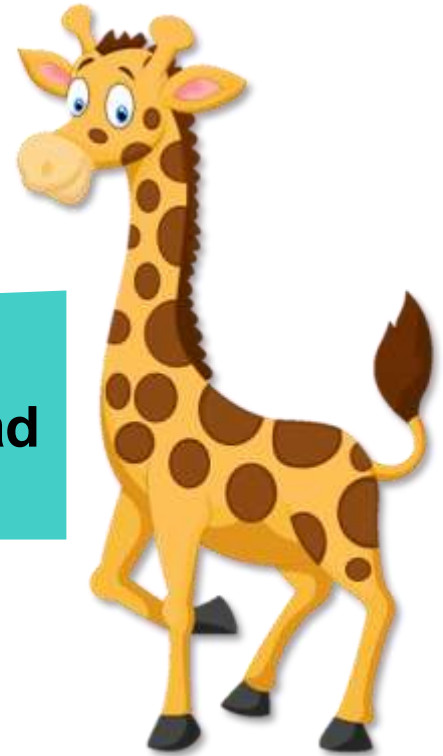


UNICUS OLYMPIADS

Sample Paper (2020-21)

Class 5 & 6

Unicus Non-Routine Mathematics Olympiad



Section – Class* <small>*Syllabus covered</small>	Total Questions	Marks per Question	Total Marks
Classic Section – Class 5 & 6	10	3	30
Scholar Section – Class 5 & 6	10	6	60
Grand Total	20		90

Note: There will be negative marking of 1/3rd of the marks allotted for that question if the answer is incorrect.

1. 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) $1/5$

Correct Answer: c

3 Marks

2. The value of $0.\overline{23} \times 1000 =$
- a) $23.\overline{23}$
 - b) $232.\overline{32}$
 - c) $2.\overline{32}$
 - d) 232.32

Correct Answer: b

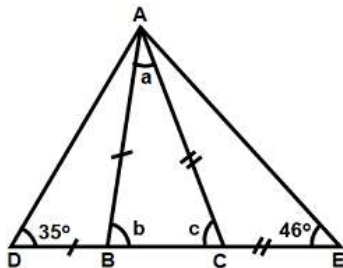
3 Marks

3. The sum of interior angle of the regular pentagon is
- a) 640
 - b) 740
 - c) 540
 - d) 620

Correct Answer: c

3 Marks

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



- a) $18^\circ, 70^\circ, \& 92^\circ$
- b) $92^\circ, 70^\circ, \& 18^\circ$
- c) $70^\circ, 92^\circ, \& 18^\circ$
- d) $70^\circ, 18^\circ, \& 92^\circ$

Correct Answer: c

3 Marks

5. What is the mean of x , $x + 3$, $x + 6$, $x + 9$ and $x + 12$?
- a) $x + 3$
 - b) $x + 6$
 - c) $x + 9$
 - d) $x + 12$

Correct Answer: b

3 Marks

6. When a number is reduced by 4, it becomes 80% of itself. Find the number?
- a) 20
 - b) 30
 - c) 40
 - d) 50

Correct Answer: a

3 Marks

7. In an examination 96% of the candidates passed and 50 failed. What is the number of candidates who appeared for the examination?
- a) 1520
 - b) 1250
 - c) 1530
 - d) 1350

Correct Answer: a

3 Marks

8. The length & 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. What is the total area of the paths?
- a) $(l + w)(b + w) - lb$
 - b) $lb - (l - w)(b - w)$
 - c) $(l + b - w)w$.
 - d) $lb - (l - 2w)(b - 2w)$

Correct Answer: c

3 Marks

9. X packets of 6 sweets each are divided equally among 10 children. How many sweets does each child get?
- a) $6x$
 - b) $6x - 10$
 - c) $3x/5$
 - d) $3x - 5$

Correct Answer: d

3 Marks

10. How many KMs does a bicycle wheel of radius 30 cm cover in 70 revolutions?
- a) 0.0132 KM
 - b) 1.32 KM
 - c) 13.2 KM
 - d) 0.132 KM

Correct Answer: d

3 Marks

11. $(1/4 \text{ of } 2^{2/7})$ when multiplied by $6^{3/10} \times 2^{1/7} \times 35/9$ gives x and if $y = 5/6$. then x/y is _____.
- a) $2^2 \times 3^2$
 - b) $2^3 \times 3^2$
 - c) $2^2 \times 3^3$
 - d) 2×3^4

Correct Answer: a

6 Marks

12. 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

Correct Answer: b

6 Marks

13. The area of parallelogram is 60m^2 base is 12cm then the distance between the parallel sides is _____.
- a) 10
 - b) 3
 - c) 5
 - d) 12

Correct Answer: c

6 Marks

14. It $4L + 2B + 3H = 228$ mts. Where $L : B : H = 3 : 2 : 1$, then the area of four walls
- a) 1480m^2
 - b) 1440m^2
 - c) 1460m^2
 - d) 1420m^2

Correct Answer: b

6 Marks

15. The number of seats for admission is increased by 10% every year. If the number of seats in 2001 was 400. What was the number of seats in 2003?
- a) 824
 - b) 484
 - c) 500
 - d) 480

Correct Answer: b

6 Marks

16. It $(1 + x + x^2)/(1 - x + x^2) = 13(1 + x)/14(1 - x)$, then $x =$ _____
- a) $1/3$
 - b) 3
 - c) $2/3$
 - d) $3/2$

Correct Answer: a

6 Marks

17. $A = Px^a.y^b$: $B = Qx^c.y^d$ where $a = 2b = 3c = 4d = 12$, $P = 3Q = 12$, then $A \div B$ is
- a) $3x^8.y^3$
 - b) $3x^3.y^8$
 - c) $3x^2.y^3$
 - d) $3xy$

Correct Answer: a

6 Marks

18. 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) $2/x^2$

Correct Answer: c

6 Marks

19. 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

Correct Answer: a

6 Marks

20. 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) 36 KM/hr
 - d) 37 KM/hr

Correct Answer: b

6 Marks