

CADET COLLEGE PETARO
ENTRY TEST 2014 FOR ADMISSION TO PRE O-LEVEL
MATHEMATICS

Time 01 Hour

Max Marks: 100

(SECTION-A)

Marks-75

Q. No.1 Choose the correct answer

1. If $U = \{1,2,3,\dots,10\}$, $A = \{1,2,3,4,\dots,15\}$ and $B = \{2,4,6,\dots,10\}$, Then $A' \cup B'$ is [2]
a) $\{1,3,5,7,9\}$ b) $\{1,2,3,4,5,6,7,8,9,10\}$ c) $\{1,2\}$ d) Not possible
2. An angle that measures between 90° and 180° is called [1]
a) Straight Angle b) Right Angle c) Complete angle d) Obtuse Angle.
3. The sum of angles in a triangle is equal to [1]
a) 180° b) 0° c) 360° d) None of these
4. The simplest form of $-2[3a - 4\{a - (2 + a)\}]$ is [2]
a) $-5a - 10$ b) $-6a - 10$ c) $6a + 16$ d) $-6a - 16$.
5. $\frac{3}{4}, \frac{7}{8}, \frac{3}{16}$ which of the three rational number is the largest? [2]
a) $\frac{3}{4}$ b) $\frac{7}{8}$ c) $\frac{3}{16}$ d) None of these.
6. 25% of 640 is [2]
a) 160 b) 320 c) 64 d) None of these
7. The cost of a television set is raised from \$600 to \$624. The percentage increase is [2]
a) 8% b) 4% c) 15% d) 100%
8. The perimeter of the square with side 6cm is [2]
a) 20 b) 25 c) 36 d) 24
9. The simplified form of $\frac{3}{5} - \left(-\frac{4}{13}\right)$ is [2]
a) $\frac{69}{65}$ b) $\frac{65}{13}$ c) $\frac{59}{65}$ d) None of these
10. We use Pythagoras's Theorem when the triangle is [2]
a) Isosceles b) Equilateral c) Right Angle d) Scalene.
11. Area of triangle whose base=20cm and height=20cm is [2]
a) $100cm^2$ b) $10cm^2$ c) $200cm^2$ d) $400cm^2$

12. -27 is the answer of [1]
a) $(-27)^2$ b) $(-2)^7$ c) $(-3)^3$ d) $(3)^3$
13. The simplified form of $-2x+4y-5y-10x$ is [2]
a) $-12x+y$ b) $-12x+9y$ c) $-12x-y$ d) $2y-15x$
14. $3.142 \times 0.94 = ?$ [2]
a) 2.9849 b) 3.9849 c) 4.183 d) 4.082
15. $1.05 \div 0.05 = ?$ [2]
a) 21.5 b) 21 c) 22 d) None of these
16. The set of all possible subset of a set is called [1]
a) Union of sets b) Intersection of sets c) power set d) None of these
17. $\frac{1}{0}$ Is equal to [1]
a) 0 b) 1 c) ∞ d) 0.5
18. $\frac{2}{7}$ is equal to [2]
a) $\frac{2}{35}$ b) $\frac{10}{7}$ c) $\frac{35}{2}$ d) Not possible
19. $2^0 = ?$ [1]
a) 0 b) 2 c) 1 d) ∞
20. $\left(\frac{x^{-1}}{y^{-2}}\right) \times \frac{x}{y^2} = ?$ [2]
a) $\frac{x^2}{y^3}$ b) 1 c) 0 d) $\frac{x^2y}{y^3}$
21. What is the largest prime number less than 100. [2]
(a) 93 (b) 95 (c) 97 (d) 99
22. The H.C.F of 15 and 75 is [2]
(a) 15 (b) 25 (c) 75 (d) 125
23. Identify the pair of numbers below which are divisible by 9 [2]
(a) 6931,3540 (b) 783,2439 (c) 188,224 (d) 5610,3841
24. The volume of a cube of side 8cm is [2]
(a) 16 cm^2 (b) 24 cm^3 (c) 512 cm^3 (d) 64 cm^3

25. The L.C.M of 65 and 130 is [2]
 (a) 13 (b) 130 (c) 65 (d) 17
26. There are 29 students in class A, 25 students in a class B, and 24 students in a class C. What is the average Number of students in these classes [2]
 (a) 25 (b) 26 (c) 27 (d) 29
27. Apples are sold in cartons of 24. How many Apples are there in 26 such cartons? [2]
 (a) 642 (b) 426 (c) 464 (d) 624
28. A triangle having two sides equal is called [1]
 (a) Scalene (b) Isosceles (c) Equilateral (d) Right angle
29. The sum of the four angles of a quadrilateral is [1]
 (a) 90° (b) 180° (c) 270° (d) 360°
30. $677 \div 1000 = ?$ [2]
 (a) 67.7 (b) 6.77 (c) 0.677 (d) 0.0677
31. Find the ratio of $\frac{2}{3}$ to $\frac{5}{8}$ [2]
 (a) $\frac{10}{24}$ (b) $\frac{16}{15}$ (c) $\frac{6}{40}$ (d) $\frac{5}{12}$
32. The statement $(5 + 6) + 3 = 5 + (6 + 3)$ represents _____ property of addition. [2]
 (a) Commutative (b) associative (c) distributive (d) no property
33. If 't' is an odd number, the expression for the next consecutive odd number is _____ [2]
 (a) t+2 (b) t+1 (c) t-1 (d) 2t
34. The cube root of number '125' is _____. [2]
 (a) 1 (b) 3 (c) 5 (d) 7
35. The supplementary angle of 118° is _____. [2]
 (a) 42° (b) 52° (c) 62° (d) 72°
36. The common factor of 45 and 75 are [2]
 (a) 3 (b) 5 (c) 15 (d) 45
37. The polygon with six sides is called _____. [1]
 (a) Triangle (b) Quadrilateral (c) Pentagon (d) Hexagon.
38. $60 + 10 \times 2 - 40 \div 10$ _____ 70 [3]
 (a) \leq (b) $<$ (c) $>$ (d) None of these.
39. The numbers 2, 3, 5, 7, 11, 13, 17, are called _____. [1]
 (a) Natural numbers (b) Whole Numbers (c) Integers (d) Prime Numbers

40. $21 \div \frac{1}{35}$ [2]

- (a) $\frac{3}{5}$ (b) $\frac{5}{3}$ (c) 735 (d) None of these

41. Natural numbers between 8 & 9 are [1]

- (a) 8.5 (b) 9 (c) 8.2 (d) None of these

42. The unit of Area is

- (a) cm (b) cm^2 (c) cm^3 (d) None of these [1]

43. Estimate and pick the nearest answer $\sqrt{930}$ [2]

- (a) 10 (b) 100 (c) 30 (d) 300

44. In triangle ABC , $m\angle A = 48^\circ$, and $m\angle C = 24^\circ$. What type of triangle is triangle ABC ?

- (a) acute (b) right (c) obtuse (d) isosceles [1]

SECTION B

Total Marks 25

Q.NO2:- Simplify

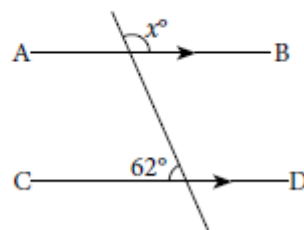
(a) $\frac{2(5x-1)}{3} - \frac{x-3}{5}$ [5]

(b) If the perimeter of the square is 28cm. What is the area of that square? [5]

(c) When a number is divided by 4 and has 12 subtracted from it, the result is $\frac{1}{6}$ of the number

What is the number? [5]

(d) In the diagram, AB is parallel to CD . The value of x is _____.



[5]

(e) If $a=3, b=2$ and $c=-1$ Find the value of the following [5]

1) $(a-b)^2 - (b-c)^2$

2) $a^b - c^a + b^a$