



UNIFIED COUNCIL

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UNIFIED CYBER OLYMPIAD - UC335 (UPDATED)

Solutions for class : 7

Mental Ability

1. (B) $\frac{PTR}{100}$

$$\frac{200 \times T \times 5}{100}$$

$$\Rightarrow T = 5 \text{ years}$$

2. (C) Out of 12 months, 7 months have 31 days.

$$\text{So, } 7/12 = 0.58 = 58\%$$

3. (B) Let the number be x .

$$(6 + x)(22 + x) = (10 + x)(14 + x)$$

$$132 + 6x + 22x + x^2 = 140 + 14x + 10x + x^2$$

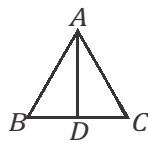
$$132 + 28x = 140 + 24x$$

$$4x = 8$$

$$x = 2.$$

So, the number to be added to make 6, 10, 14, 12 in proportion is 2.

4. (B) Hypotenuse is always greater than perpendicular sides.



5. (C) $A : B : C = 5 : 3 : 2$

$$\text{given } A - C = 60$$

$$5x - 2x = 60$$

$$3x = 60$$

$$x = 20.$$

$$B - C = 3x - 2x$$

$$= 3(20) - 2(20)$$

$$= 60 - 40$$

$$= 20.$$

6. (D) $\frac{480 - 384}{480} \times 100 = 20\%$

7. (D) Perimeter of equilateral triangle = $3a$

$$\text{Perimeter of square} = 4a$$

$$\text{given } 3a = 4a$$

$$\therefore \text{side } a \text{ in equilateral triangle} = 4$$

$$\text{side } a \text{ in square} = 3$$

$$\text{area of triangle} = \text{area of square}$$

$$\frac{\sqrt{3}}{4} a^2 : a^2$$

$$\Rightarrow \frac{\sqrt{3}}{4} \times 4 \times 4 : 3 \times 3$$

$$= 4\sqrt{3} : 3 \times 3$$

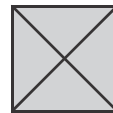
$$= 4 : 3\sqrt{3}$$

$$4\sqrt{3} : \sqrt{3} \times \sqrt{3} \times 3.$$

8. (C) A plane figure bounded by straight lines, then the least value of lines are 3.

A triangle can be formed using 3 lines.

9. (C) Reciprocal of 0.0001 = $\frac{1}{0.0001} = 10000$



10. (C)

Side of unshaded is also the side of shaded.

11. (B) $S.I. = \frac{PTR}{100} = 676.5 = \frac{P \times (1) \times 5.5}{100}$

$$\Rightarrow P = \frac{676.5 \times 100}{5.5}$$

$$P = 12300$$

S.I. with sum 12300 is

$$S.I. = \frac{12300 \times 1 \times 5}{100} = 615$$

The amount of interest less on same sum at 5%.

Annual rate is $676.5 - 615 = 61.5$

12. (D) The difference of $3P$ and 2 is 7 is not a correct statement.
13. (C) $\frac{25}{100} \times 500000 = 125000$
14. (B) A fraction p/q can be expressed at terminating decimal, if q has no prime factors other than $2, 5$ because only $2, 5$ can be expressed as coprimes.
15. (B) Let the total amount of bill = x .

$$\therefore \frac{x}{8} + \frac{x}{4} + 1.20 = x$$

$$x \left(\frac{3}{8} \right) + 1.20 = x$$

$$\frac{3x}{8} - x = -1.20$$

$$\frac{3x - 8x}{8} = -1.20$$

$$\frac{-5x}{8} = -1.20$$

$$5x = 9.6 \Rightarrow x = 1.92$$

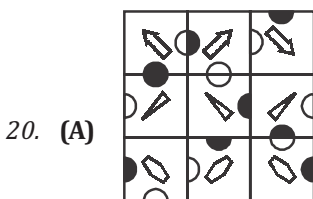
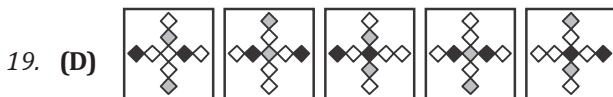
\therefore The restaurant bill was ₹ 1.92.

Reasoning



17. (C) Second vowel from the right of reversed English alphabet is E and 7th letter to the left of E in the new series is L.

	24	18	20	26
	L X B	F R C	D T E	A Z Z
18. (B)	↓ ↑ ↓	↓ ↑ ↓	↓ ↑ ↓	↓ ↑ ↓
	(12 × 2)	(6 × 3)	(4 × 5)	(1 × 26)



21. (D) $3 : 11 :: 7 : 51$
 $\quad \quad \quad \underbrace{\quad \quad}_{3^2+2} \quad \quad \quad \underbrace{\quad \quad}_{7^2+2}$

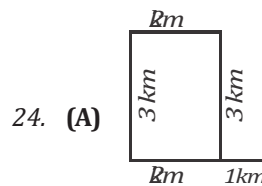
22. (B) A is for the three lines.

C is for the two lines.

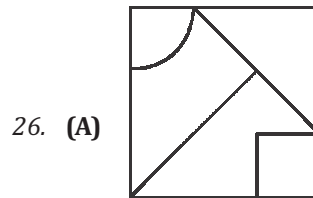
H is for the square.

G is for the circle.

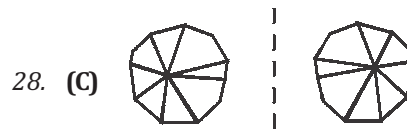
Hence the code for the required is AH.



25. (B) All are squares.



27. (Del)



29. (B) $2 \times 5 \div 5 + 100$

$$= 2 \times 1 + 100 = 102$$



Computers

31. (D) 32. (D) 33. (A) 34. (C) 35. (C)
 36. (D) 37. (D) 38. (B) 39. (C) 40. (B)
 41. (B) 42. (A,B) 43. (D) 44. (A) 45. (A)

English

46. (B) 47. (D) 48. (C) 49. (B) 50. (D)