

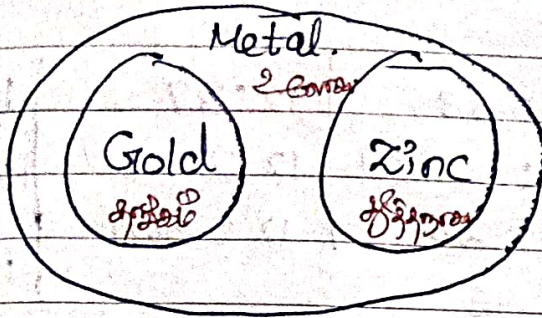
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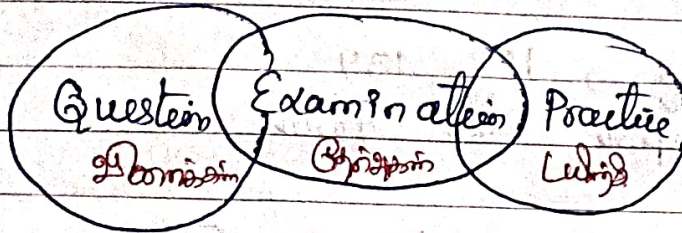
[22/2/25]

1.



Ans - (1) A.

2.



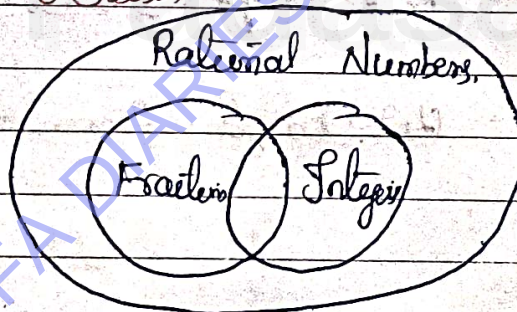
Ans: (3) C.

3.

Rational Numbers. $\rightarrow$ eg $-4, -3/2, 0, 1, 3/4, \dots$ etc.
பெரிய எண்ணின்

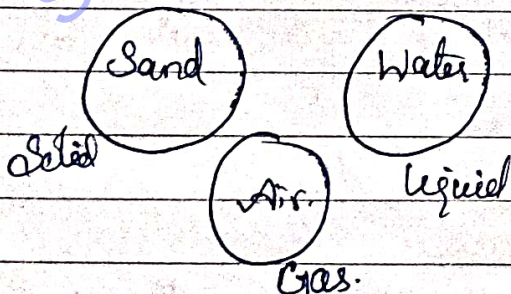
Fractions $\rightarrow -3/2, 3/4, 1/2, \dots$ etc.
பகுதியின்

Integers $\rightarrow -3, -1, 0, 1000, \dots$ etc.
பெரிய எண்ணின்



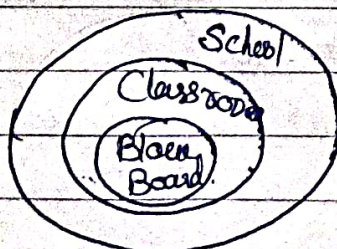
Ans: (2) E

4.



Ans: (3) C.

5.



Ans: (1) B.

6. Odd one Out :

$7:22$	$8:33$	$12:37$	$15:46$
$7:(7 \times 3)+1$	$8:(8 \times 3)+1$	$12:(12 \times 3)+1$	$15:(15 \times 3)+1$
	$8:25$	$12:36+1$	$15:46$

Ans: (2) $8:33$.

7. 113, 123, 157, 139
 Prime Composite Prime Prime

113, 157, 139 → Prime numbers

123 → Composite

Ans: (2) 123.

8. Moon, Earth, Football → 3D shapes. (Sphere, Ellipse like)

Bangle → 2D shape. (Donut like)

Ans: (4) Bangle, Donut like.

9. 4, 16, 60
 $\sqrt{4}=2$ $\sqrt{16}=4$ $\sqrt{60}=7.75$

9. (4, 16, 60)
 $\sqrt{4}=2$ $\sqrt{16}=4$ $\sqrt{60}=7.75$

(5, 25, 120)
 $\sqrt{5}=2.24$ $\sqrt{25}=5$ $\sqrt{120}=10.95$

(6, 36, 216) → Ans: (3) (6, 36, 216)
 $6^2=36$ $6^3=216$

(7, 49, 343)
 $7^2=49$ $7^3=343$

10. $75\% \rightarrow \frac{75}{100} = 0.75$
↳ for one per cent

$0.75 \rightarrow 0.75$

$\frac{3}{4} \rightarrow 0.75$

$7.5 \rightarrow$ odd one.

Ans: (4) 7.5

11) $43 : 14 :: 54 : 16$

$4+3 \rightarrow 7$
 $1+4 \rightarrow 5$

$5+4 \rightarrow 9$
 $1+6 \rightarrow 7$

[Among the options],

$24 \rightarrow 2+4 \rightarrow 6$

$18 \rightarrow 1+8 \rightarrow 9$

$16 \rightarrow 1+6 \rightarrow 7 \checkmark$

$23 \rightarrow 2+3 \rightarrow 5$

Ans: (3) 16.

12. $\frac{M}{B} : \frac{13}{2} :: \frac{R}{D} : \frac{18}{4}$

For AB CD... M is 13th Letter

B is 2nd "

R is 18th "

D is 4th "

where $\frac{R}{D} = \frac{18}{4}$

Ans: (D) $\frac{18}{4}$

13. South : North :: West : East

From West 135° is North East.

Ans: (2) North East

21 கிழக்கு.

14. Bugalore : Bem :: Clove : Flower/bud

கொழும்பு : தாது :: மிளகு : பூ/பூக்காய்

Ans: (2) Bud. மிளகு

குடிமரம் பூ

15. India : Banyan Tree

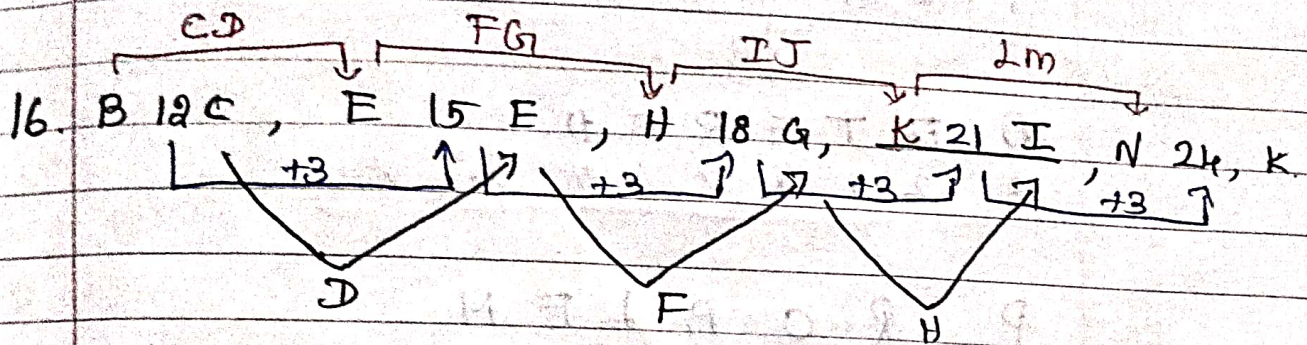
(Country Tree [நாடுகளின் மரம்])

Tamil Nadu : Palm Tree

(தமிழ்நாடு) : பனை மரம்

Ans: (1) Palm Tree, பனை மரம்.

16. B 12 C, E 15 F, H 18 G



Ans: (2) K 21 I

17. 8 ?

D 12 14

17. $\frac{5}{4} \times \frac{6}{5} + \frac{7}{6} + \frac{8}{7} = 26$

$\frac{4}{4} \times \frac{5}{4} + \frac{6}{5} + \frac{7}{6} = 26$

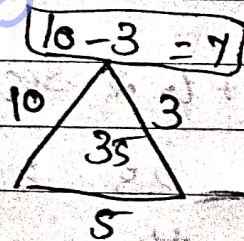
Ans: (3) G.

hence

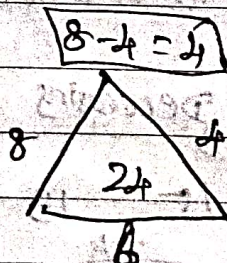
3 ? G.

$19 + ? = 26$

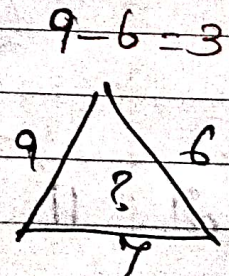
18.



$$7 \times 5 = 35$$



$$4 \times 6 = 24$$



$$3 \times 7 = 21$$

Ans: (4) 21.

19. T E A C H E R.
1 2 3 4 5 6 7



A E T E R E H.
3 2 1 X 7 6 5 Like wise.

P R O B L E M
1 2 3 4 5 6 7



3 2 1 2 7 6 5
O R P D M E L

Ans : (3). ORPDMEL

20. Totally 16 Letters Divide it by 4

$$\frac{16}{4} = 4 \text{ letters.}$$

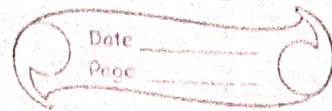
b c a / b c a a / b c a / c a a
a / c a / a / b

Ans : (1) a c a b.

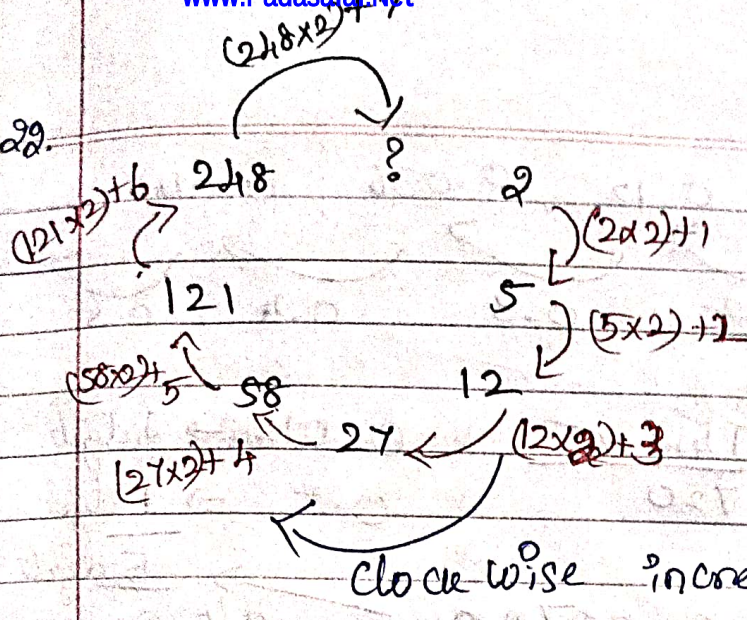
21. 11 17 15 13 19 9 23 5
Increasing Decreasing split to 2 sequences
+4 +4 +4 +4 +4 +4
11 17 15 13 19 9 23 5
+4 +4 +4 +4
13 9 13 9 13 9 13 9

Ans : (4) 9

$$\begin{array}{r} 13 \\ - 4 \\ \hline 9 \end{array}$$



22.



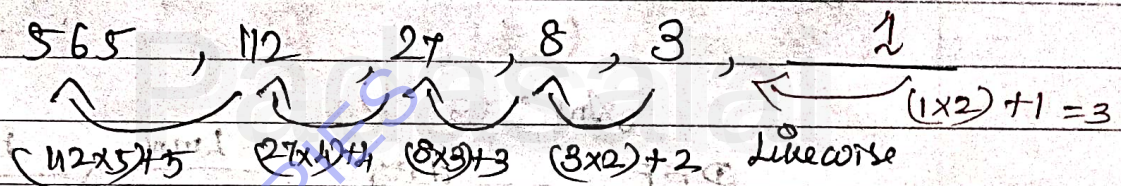
$$\begin{array}{r} 248 \times 2 \\ 496 \\ 496 \\ 7 + \\ \hline 503 \end{array}$$

Ans: (4) 503.

23.

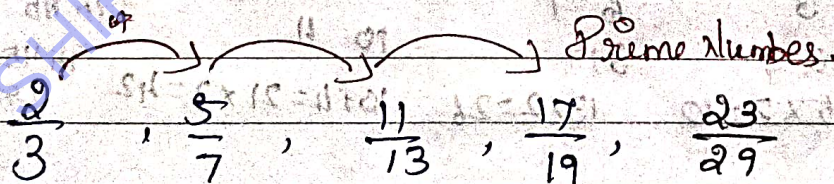
565, 112, 27, 8, 3

difference is very high, use multiplier



Ans: (2) 2

24.

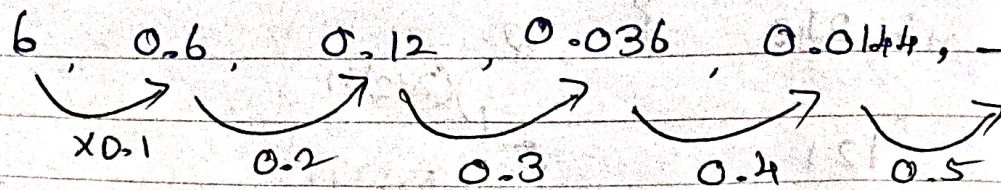


2, 3, 5, 7, 11, 13, 17, 19

$\frac{2}{3}, \frac{5}{7}, \frac{11}{13}, \frac{17}{19}$

Ans: (4) $\frac{23}{29}$

25.

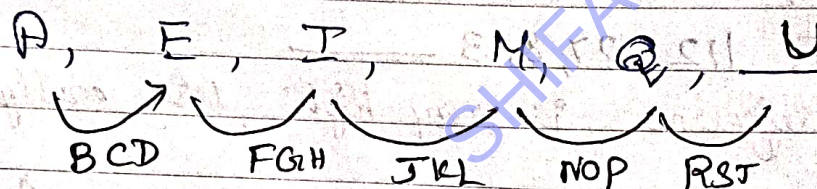


$$\frac{144}{720} \times 5$$

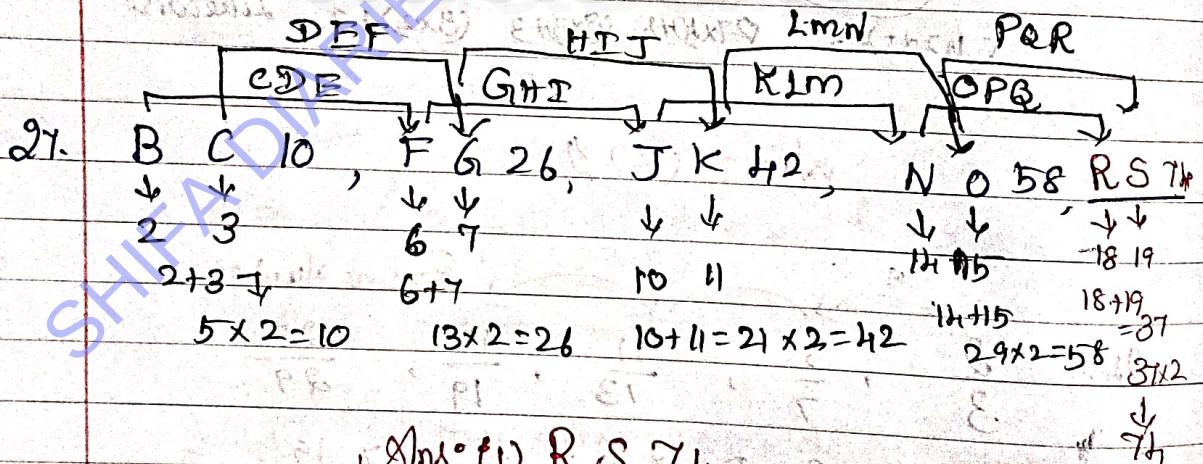
0.0144 $\rightarrow$ 4 digits0.5 $\rightarrow$ 1 digit0.00720 $\rightarrow$ 5 digits after Point.

Ans (1) 0.00720.

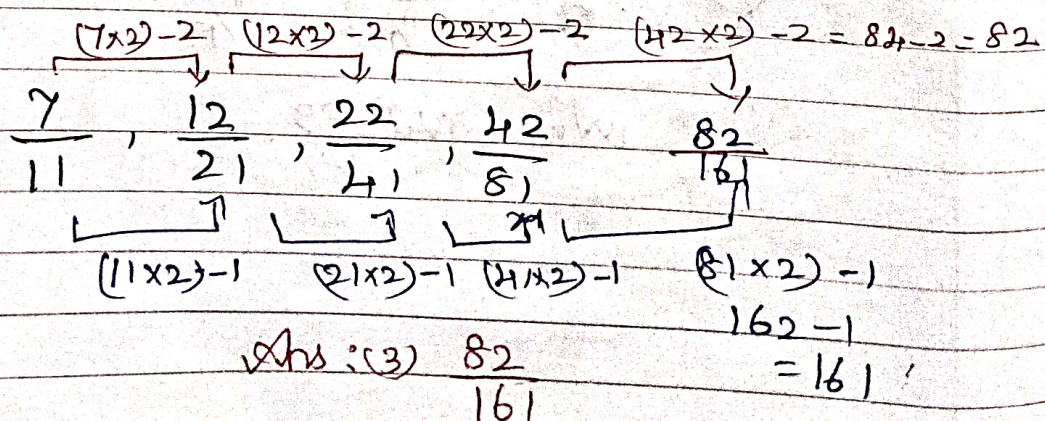
26.



Ans: (3) U.



28.



29. CAN = 21 DEAR = 32

$\downarrow \downarrow \downarrow \uparrow$ $\downarrow \downarrow \downarrow \downarrow \uparrow$
 3 1 14 4 5 1 18
 $3+1+14 = 18+3$ $4+5+1+18 = 28+4$

STUDY = 94

$\downarrow \downarrow \downarrow \downarrow \downarrow$ $\uparrow$
 19 20 21 4 25
 $19+20+21+4+25 = 89+5 = 94$

Ans : (4) 94.

30. SUN (3 letters) → GSTR (6 letters)

$\begin{array}{ccc} S & U & N \\ \swarrow \downarrow \searrow & \swarrow \downarrow \searrow & \swarrow \downarrow \searrow \\ R & T & O \end{array}$
 $\begin{array}{ccc} G & S & T \\ \swarrow \downarrow \searrow & \swarrow \downarrow \searrow & \swarrow \downarrow \searrow \\ F & R & U \end{array}$

TRV TOM (6 letters) HFTRUS

Like wise,

$\begin{array}{ccc} T & E & N \\ \swarrow \downarrow \searrow & \swarrow \downarrow \searrow & \swarrow \downarrow \searrow \\ S & U & D \\ \swarrow \downarrow \searrow & \swarrow \downarrow \searrow & \swarrow \downarrow \searrow \\ U & S & F \\ \swarrow \downarrow \searrow & \swarrow \downarrow \searrow & \swarrow \downarrow \searrow \\ U & S & F & D & O & M \end{array}$

Ans : (2) USFDOM

31. Sweet and Sour = 4 1 3
 eat Sweet Apples = 7 4 8
 Apples are Sour = 7 5 3

748 → 4 → Sweet 7 → apple 8 → eat

Ans: (4) 8.

32. H I K E
 ↓ ↓ ↓ ↓
 © ^ % ?

Ans: (2) © ^ % ?

33. Δ ? @ ● ©
 ↓ ↓ ↓ ↓ ↓
 T E A C H

Ans: (1) TEACH

34. Parts of Body: from head to foot.

E Face → C

Neck → D

Shoulder → A

Stomach → B

Foot → E

Ans: (2) C D A B E

35. Rain → A

Rank → E

Relief Release → D

Relea Relief → B

Rescue → C

Ans: (4) A E D B C

2008
Right

36.

இயல்
Left

A 4 3 ② 9 < % 3 7 = P R 8 5 1 Q * Y B

11 10 9 8 7 6 5 4 3 2 1

Ans: ③. 2

என்கிற சூத்திரம் பின்பற்றி After Removed numbers:

37.

A ② 2 % = P R Q * Y B

1 2 3 4 5 5 4 3 2 1

↓
P

Ans ②. P.

38.

28 - 6 - 25 - 5 - 4 = 2

28 - 6 - 5 - 4 = 2

28 - 6 - 25 + 5 - 4 = 2

28 - 6 - 25 + 5 - 4 = 2

28 - 6 - 25 + 5 - 4 = 2

28 - 30 + 4 = 2

-2 + 4 = 2

2 = 2

hence 28 = 6 - 25 ÷ 5 + 4 = 2

-, x, ÷, +

Ans. (3) -, x, ÷, +

39.

 $a * b = a \times b$ $a \# b = a \div b$ $24 * 7 = 24 \times 7$ $48 \# 8 = 48 \div 8$ $24 * 7 = 168$ $48 \# 8 = 6$ $(24 * 7) \# (48 \# 8) = 168 \# 6$ $= 168 \div 6$ $= 28$

Ans: (4) 28

Q. 39.
$$\begin{array}{ccccccc} 6 & + & 6 & \div & 3 & \times & 10 \\ \downarrow & & \downarrow & & \downarrow & & \\ 3 & & 3 & & 6 & & \\ & & \downarrow & & & & \\ & & 3 & & & & \\ & & \div & & & & \\ & & 3 & & & & \\ & & + & & & & \\ & & 3 & & & & \\ & & \div & & & & \\ & & 3 & & & & \end{array}$$

40.

$$3 + 6 \div 2 = 4$$

$$\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow = 4$$

$$6 \div 3 + 2 = 4$$

$$2 + 2 = 4 \quad \checkmark$$

Ans: (2) $3 + 6 \div 2 = 4$

41.

$$A \times B = A^B$$

$$A \div B = B^A$$

$$2 \times 4 = 2^4$$

$$2 \div 5 = 5^0 = 1$$

$$(2 \times 4) \div (0 \div 5) = 2^4 \div 5^0$$

$$= 2^4 \div 1 \quad 2^4 = 16$$

$$= 16 \div 1$$

$$= (1)^{16}$$

$$= 1$$

Ans: (3) 1

42.

Drama

→ A

Dance

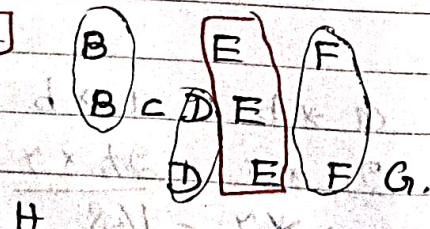
→

Drawing

→

No Participation

→



43.

All Three

Ans: (2) E, F

44.

Drama only

Ans: (1) A

Neither Drawing nor Dance

45.

only in 2

Ans: (4) B, D, F

46.

Dance & Drawing

Not Drama:

Ans: (2) D

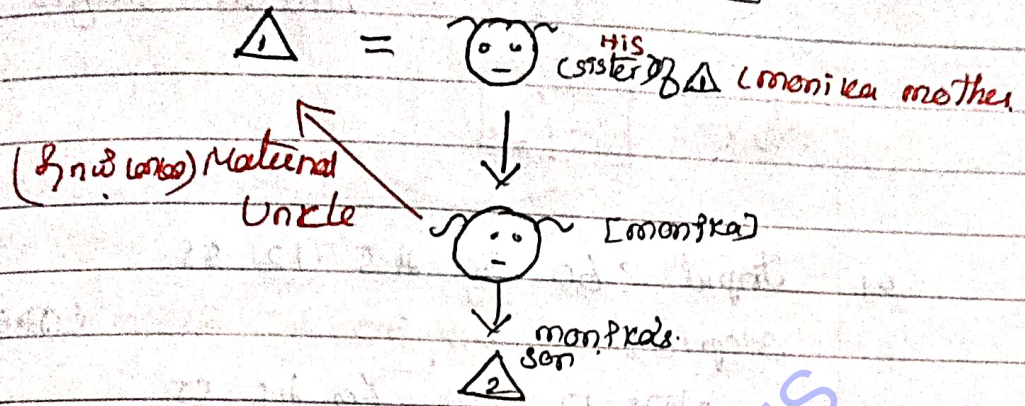
47.

No Participation

Ans: (4) H

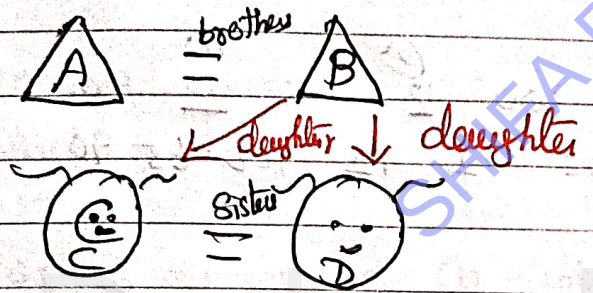
47. Man $\rightarrow \Delta$ Woman $\rightarrow \text{woman symbol}$

Bro/Sis



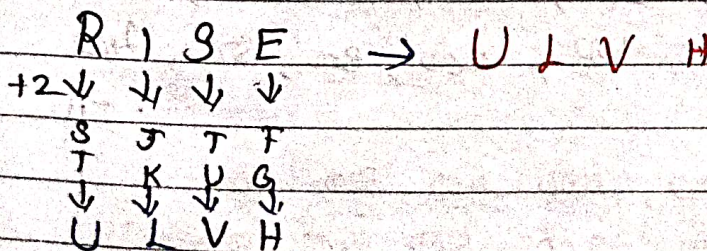
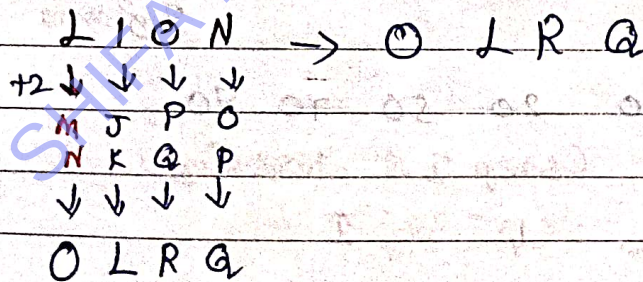
Ans: (1) Maternal Uncle, brother's son.

48.



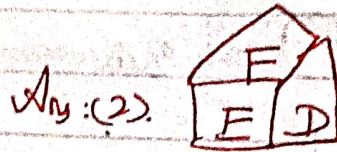
Ans: (1) Daughters.

49.



Ans: (1) U L V H.

50. $\boxed{F|E|B|C} \rightarrow$ கொடுக்கப்பட்ட தொடரின் Lateral Surface of Cube,



51. Input : 60 30 45 (12) 55
 Step I: 12 60 30 45 55 (பெரிய எண்ணை இடதுபுறம்)
 II: 12 30 60 45 55 (அடுத்த பெரிய எண்ணை இடதுபுறம்)
 III: 12 30 45 60 55 (அடுத்த பெரிய எண்ணை இடதுபுறம்)
 IV: 12 30 45 55 60 (அடுத்த பெரிய எண்ணை இடதுபுறம்)

51. Input : 100 12 65 02 90
 Step II: 02 12 100 65 90 (பெரிய எண்ணை இடதுபுறம்)
 Ans: (1) 02 12 100 65 90

52. Input : 20 10 50 70 90

Last Step = ?

கொடுக்கப்பட்ட தொடரின் Ascending Order இல்

Step 1 : 10 20 50 70 90

(Step 1 இல் இடதுபுறம்)

Ans: (4) Step I

53. Input : 500, 400, 300, 200, 100.

Output Step : 100, 200, 300, 500, 400.

Work out:

Step I: 100, 500 400 300 200

II: 100, 200 500 400 300

III: 100 200 300 500 400.

Ans (3) Step III.

54. 9 5 7 4 3
- S-I: 3 9 5 7 4
- II: 3 4 9 5 7
- III: 3 4 5 9 7
- IV: 3 4 5 7 9
- Ascending (directly)
- ആദ്യം

Ans: (2) 3 4 5 7 9.

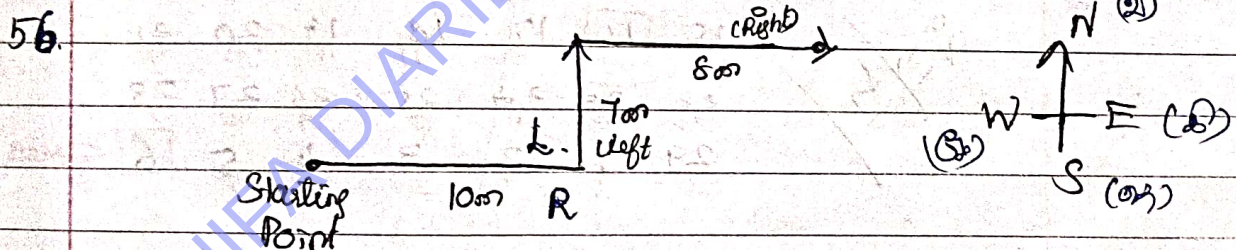
55. Last Step is Ascending order [ആദ്യം].
 തന്നെ ഉൾപ്പെടെ ക്രമം ഉണ്ട്. [Step II is Last step]

option D 15 10 20 13 25

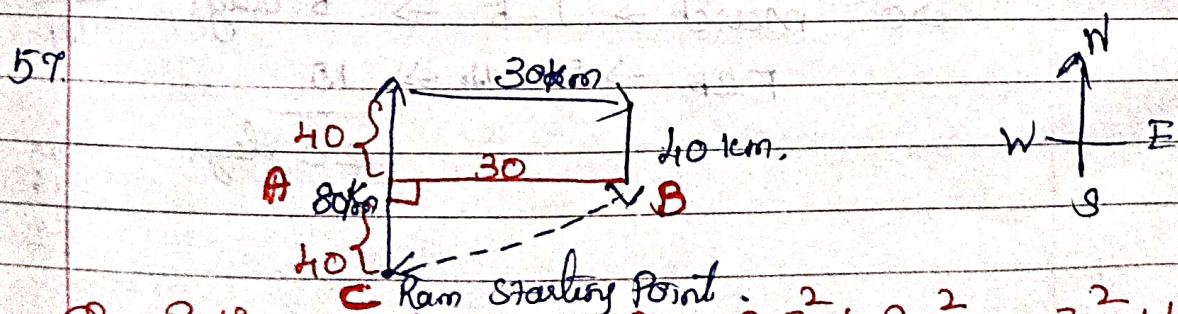
Step I: 10 15 20 13 25

II: 10 13 15 20 25 → Ascending Condition OK

Ans: (1) 15 10 20 13 25



Ans: (3) East



By Pythagorean Thm → $BC^2 = AB^2 + AC^2 = 30^2 + 40^2$
 അതേ പ്രകാരം $= 900 + 1600 = 2500$

$$BC^2 = 2500$$

$$BC = \sqrt{2500} = \sqrt{50 \times 50} = 50 \text{ km}$$

Ans: (1) 50 km.

58

Ans : (4) More than 15.

59.

Feb $\rightarrow$ 29 days. [Leap year.]March $\rightarrow$ 6th [after] Mar 6 க்கு பின்.பின்னர் டிசம்பர் $\rightarrow$ 5 நாட்கள் [1-5].

மார்ச் 19

- 5

14

பின்னர் 29 - 14 = 15 நாட்கள்

16th Day

Feb

1 2 3 4 5 6 7

8 9 10 11 12 13 14

15 16 17 18 19 20 21

19 18 17 16 15 14

22 23 24 25 26 27 28

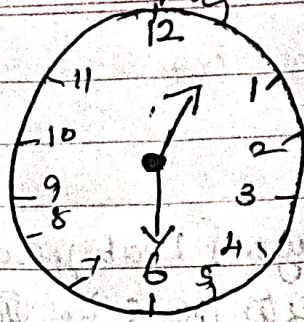
13 12 11 10 9 8 7

29 1 2 3 4 5 6 - Mar

6 5 4 3 2 1

Feb-16 Ans : (1) 16th Feb

60.



மணி சுமார்
ஒன்றரை மணிக்கு

$$12-1 = 15^\circ$$

$$1-2 = 30^\circ$$

$$2-3 = 30^\circ$$

$$3-4 = 30^\circ$$

$$4-5 = 30^\circ$$

$$5-6 = 30^\circ$$

$$\underline{165^\circ}$$

$$1 \text{ to } 6 = 5 \times 30 \rightarrow 150$$

$$12 \text{ to } 1 = 15 \rightarrow 15$$

$$\underline{165}$$

Ans (D) 165°

61.

Ans: (B) 30,000.

In 2002 $\rightarrow$ Private + Govt + Govt Aided.

$$15,000 + 10,000 + 5,000 = 30,000$$

62.

2005 Govt $\rightarrow$ 15,000

Ans: (D) 15,000

In 2001.

63.

Govt + Private

$$10,000 + 10,000 = 20,000$$

Ans: (2) 20,000.

64.

Max no/- of Govt St. in the year: 2003

Ans: (D) 2003

65.

In 2004, Govt Aided sch = 10,000

Difference

$$\text{Private} = 5,000 \rightarrow$$

Ans: (4) 5,000

$$\underline{5,000}$$

A

B

C

D

E

Convert everything in terms of E

$$A = \frac{1}{2} B$$

$$B = 1\frac{1}{2} C$$

$$C = 2D$$

$$D = 3E$$

$$E = E$$

$$A = \frac{1}{2} B$$

$$B = \frac{3}{2} C$$

$$C = 2 \left(\frac{3}{2} E \right)$$

$$D = \frac{3}{4} E$$

$$E = E$$

$$A = \frac{1}{2} \left[\frac{3}{2} C \right]$$

$$B = \frac{3}{2} [2D]$$

$$C = \frac{3}{2} E$$

$$D = \frac{3}{4} E$$

$$E = E$$

$$= \frac{3}{4} C$$

$$= \frac{3}{4} [2D]$$

$$= \frac{3}{4} [2 \left[\frac{3}{2} E \right]]$$

$$B = \frac{9}{4} E$$

$$= \frac{3 \times 3}{4 \times 2} E$$

$$A = \frac{9}{8} E$$

from this.

A	B	C	D	E
$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$
$\frac{9}{8} E$	$\frac{9}{4} E$	$\frac{3}{2} E$	$\frac{3}{4} E$	E

LCM of 8, 4, 2, 4 = 8

A	B	C	D	E
$\frac{9}{8} E$	$\frac{9 \times 2}{4 \times 2} E$	$\frac{3 \times 4}{2 \times 4} E$	$\frac{3 \times 2}{4 \times 2} E$	$\frac{8}{8} E$

$\frac{9}{8} E$	$\frac{18}{8} E$	$\frac{12}{8} E$	$\frac{6}{8} E$	$\frac{8}{8} E$
$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$
A	B	C	D	E

Ascending order

$$\frac{6}{8} E, \frac{8}{8} E, \frac{9}{8} E, \frac{12}{8} E, \frac{18}{8} E$$

$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$

D E A C B

Lightest

Middle

Heaviest

66. Middle Ans: (4) A

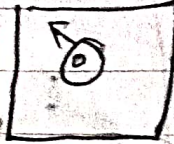
67. Lightest Ans: (3) D

68. Heaviest Ans: (2) B

69. Lighter than E Ans: (2) D

70. Heavier than A, lighter than B Ans: (4) C

71. Ans.

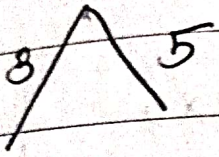


72. Ans (2)	79. Ans (2)	86. Ans (4)
73. Ans (2)	80. Ans : (4)	87. Ans (1)
74. Ans. (3)	81. Ans : (2)	88. Ans (3)
75. Ans : (3)	82. Ans (3)	89. Ans (1)
76. Ans : (2)	83. Ans (1)	90. Ans (3)
77. Ans (2)	84. Ans (2)	
78. Ans : (3)	85. Ans (3)	

option 3

option

NMM S - SAT - 2025 [TENTATIVE]

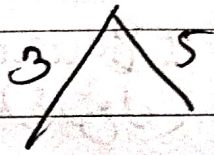


[option 1] = 2

$$3 + 5 = 8 > 2 \checkmark$$

$$3 + 2 = 5 \not> 5 \times$$

[No]



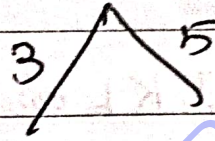
[option 2] = 6

$$3 + 5 = 8 > 6 \checkmark$$

$$3 + 6 = 9 > 5 \checkmark$$

$$5 + 6 = 11 > 3 \checkmark$$

[yes]



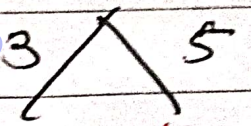
[option 3] = 8

$$3 + 5 = 8 \not> 8 \times$$

$$3 + 8 = 11 > 5 \checkmark$$

$$5 + 8 = 13 > 3 \checkmark$$

[No]



[option 4] = 9

$$3 + 5 = 8 < 9 \times$$

$$3 + 9 = 12 > 5 \checkmark$$

$$5 + 9 = 14 > 3 \checkmark$$

[No] $\times$

Ans: (2) 6 cm.

$x-3$ is factor, find the value of $x-3=0$

$$\boxed{x=3}$$

$$i) x^2 - 4x + 3 = 3^2 - 4(3) + 3 = 9 - 12 + 3 = 12 - 12 = 0$$

[If, x, y is zero then $=0$ then]. Then,

Ans: (1) $x^2 - 4x + 3$.

93.

$$P = -15$$

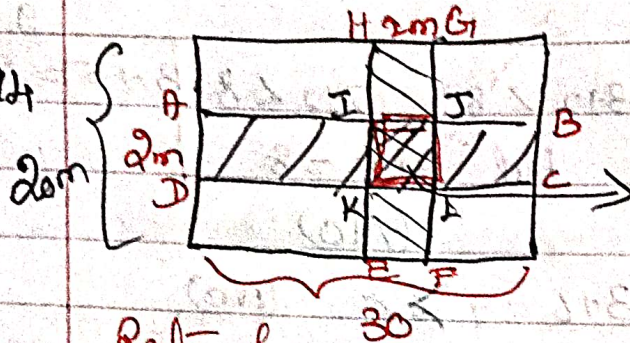
$$Q = 5 \quad (P - Q) \div (P + Q)$$

$$(-15 - 5) \div (-15 + 5)$$

$$(-20) \div (-10)$$

$$\frac{-20}{-10} = 2$$

Ans: (4) 2

Rectangle
ABCD

$$ABCD \text{ area} \rightarrow l \times b = 30 \times 2 \quad \left| \begin{array}{l} l=30 \quad b=2 \\ = 60 \text{ m}^2 \end{array} \right.$$

$$EFGH \text{ area} \rightarrow l \times b = 20 \times 2 \quad \left| \begin{array}{l} l=20 \quad b=2 \\ = 40 \text{ m}^2 \end{array} \right.$$

$$IJKL \text{ area} \rightarrow a^2 = 2 \times 2 \quad \left| \begin{array}{l} a=2 \\ = 4 \text{ m}^2 \end{array} \right.$$

$$\text{Area of } ABCD + \text{Area of } EFGH - \text{Area of } IJKL$$

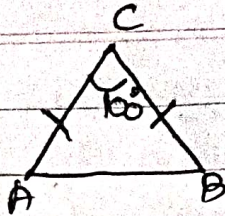
$$= 60 + 40 - 4$$

$$= 100 - 4$$

$$= 96 \text{ m}^2$$

Ans: (4) 96 m²

95.



$AC = BC$. In $\triangle$
By condition, opposite lengths equal
Then its angle also equal

$$\text{W.K.T, } \angle A + \angle B + \angle C = 180^\circ$$

$$\angle A + \angle A + 100^\circ = 180^\circ \quad \therefore \angle B = \angle A$$

$$2\angle A = 180^\circ - 100^\circ$$

$$2\angle A = 80^\circ$$

$$\angle A = \frac{80^\circ}{2} = 40^\circ$$

$$\text{hence } \angle A = \angle B = 40^\circ$$

Ans: (1) 40°

96.

$$x - y = 56.58$$

$$\downarrow$$

$$x - 26.13 = 56.58$$

$$56.58$$

$$26.13$$

$$\hline 82.71$$

$$x = 56.58 + 26.13$$

$$x = 82.71$$

Ans: (1) 82.71

97.

Value of $(a+b)^2 - (a-b)^2$ is _____

$$(a+b)^2 = a^2 + b^2 + 2ab \quad (a-b)^2 = a^2 + b^2 - 2ab$$

$$(a+b)^2 - (a-b)^2 = (a^2 + b^2 + 2ab) - (a^2 + b^2 - 2ab)$$

$$= a^2 + b^2 + 2ab - a^2 - b^2 + 2ab$$

$$= 4ab$$

Ans: (2) $4ab$

98.

$x = 2$	$x = 4$	$x = 6$	$x = 8$	$x = 10$
$y = \frac{1}{2} \times 2$	$y = \frac{1}{2} \times 4$	$y = \frac{1}{2} \times 6$	$y = \frac{1}{2} \times 8$	$y = \frac{1}{2} \times 10$
$y = 1$	$y = 2$	$y = 3$	$y = 4$	$y = 5$

from this table $y = \frac{1}{2} x$

$$\text{Ans (3). } y = \frac{1}{2} x$$

99.

Food Provision.

(X)
Person(Y)
days

75

30

90

?

↑

+15

↓

→ Inverse

Variation (தொகை மாறுபாடு)

Formula

$$x_1 y_1 = x_2 y_2$$

$$x_1 = 75 \quad y_1 = 30$$

$$(75)(30) = (90)(?)$$

$$x_2 = 90 \quad y_2 = ?$$

$$\frac{(75)(30)}{90} = y_2$$

$$y_2 = 25 \text{ days}$$

Ans: (2) 25

100.

No. of Students : frequency ⇒ 11

மொத்தம் 11 பேர் 23 பக்கங்களை

படித்தார்கள்.

Mode → 23 பக்கங்களை படித்தார்கள்.

அதாவது 23 பேர் 11 பக்கங்களை

Ans: (1) 23

101.

3 : 2 : 4 → 27,000

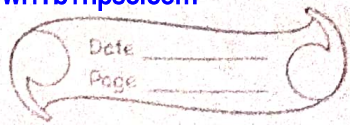
$$3x + 2x + 4x = 27,000$$

$$9x = 27,000$$

$$x = \frac{27,000}{9} = 3,000$$

$$\text{Borrow} \rightarrow 2x = 2 \times 3,000 = 6,000, \quad \% \text{ of } 27,000 = \frac{6,000}{27,000} \times 100$$

$$\text{Ans: (3) } 22.22\%$$



102: From options:

Case i) $P = ₹ 4000$, $r = 5\%$, $n = 2$

$$I = \frac{Pnr}{100} = \frac{4000 \times 5 \times 2}{100} = 400$$

$$\text{Total} = P + I = 4,000 + 400 = 4,400 \checkmark$$

given S. Interest
Total amt,
Rs. 4,400 / 2 yrs
Rs. 4,600 / 3 yrs

Case ii) $P = 4000$, $r = 5\%$, $n = 3$

$$I = \frac{Pnr}{100} = \frac{4000 \times 5 \times 3}{100} = 600$$

$$\text{Total} = P + I = 4,000 + 600 = 4,600 \checkmark$$

Ans. (D) ₹ 4,000, 5%

$$103 \quad (0.6)^2 + (0.4)^2 - 2(0.24) = (0.6)^2 + (0.4)^2 + 2(0.6)(-0.4)$$

$$= a^2 + b^2 + 2 \cdot a \cdot b$$

$$= (a - b)^2$$

$$\text{here } (a = 0.6) \quad (b = 0.4)$$

$$= (0.6 - 0.4)^2$$

$$= (0.2)^2$$

$$= 0.04$$

Ans: (A) $\rightarrow 0.04$

$$104. (15)^{15} + (16)^{16} = ?$$

↓
one's Place

தொழில்

5

↓
one's Place

தொழில்

6

$$5 + 6 = 11$$

↓ one's Place
தொழில்

$$5^1 = 5$$

$$5^2 = 25$$

$$5^3 = 125$$

$$\vdots$$

$$6^1 = 6$$

$$6^2 = 36$$

$$6^3 = 216$$

one's
Place
is 5

one's
Place
is 6

Ans: (3)

105. Area of Rhombus inscribed in a square $\rightarrow \frac{1}{2} d_1 \times d_2 = 25 \text{ sq. cm}$

Given $d_1 = 2d_2$

$$\frac{1}{2} \cdot d_1 \times d_2 = 25$$

$$\frac{1}{2} \cdot 2d_2 \times d_2 = 25$$

$$d_2 \times d_2 = 25$$

$$d_2^2 = 25$$

$$d_2 = \sqrt{5 \times 5} = 5$$

$$d_2 = 5 \quad d_1 = 2 \cdot d_2 = 2 \times 5 = 10$$

$$d_2 = 5 \quad d_1 = 10$$

Sum of d_1 & $d_2 = d_1 + d_2 = 10 + 5 = 15 \text{ cm}$

Ans (4): 15 cm

106. $x^{\frac{1}{3}} + x^{\frac{1}{3}} = 14$

Given:

$$(343)^{\frac{1}{3}} + (343)^{\frac{1}{3}} = 14$$

$$(7^3)^{\frac{1}{3}} + (7^3)^{\frac{1}{3}} = 14$$

$$7^{\frac{3}{3}} + 7^{\frac{3}{3}} = 14$$

$$7 + 7 = 14 \quad \checkmark \text{ Satisfied}$$

$$\boxed{x = 7}$$

$$\boxed{\text{Ans: } (1) \ 343}$$

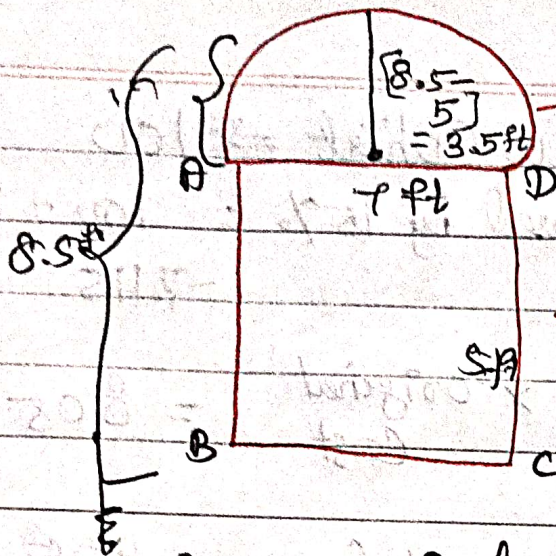
$$x^{\frac{1}{3}} + x^{\frac{1}{3}} = 2x^{\frac{1}{3}} = 14$$

$$x^{\frac{1}{3}} = \frac{14}{2} = 7$$

$$x^{\frac{1}{3}} = 7$$

$$\text{Raising Power 3, } (x^{\frac{1}{3}})^3 = 7^3 \Rightarrow \boxed{x = 343}$$

107.



Half Circle Area $\frac{1}{2} \pi r^2$

$$r = 3.5 \text{ ft}$$

[Given radius $\frac{1}{2} \pi r^2$]

Rectangle Area $l \times b$

[Given length l and breadth b]

$$l = 7 \text{ ft } b = 5 \text{ ft}$$

Area = Rectangle ABCD area + Half Circle Area

$$= l \times b + \frac{1}{2} \times \pi \times r^2 \quad \left[\pi = \frac{22}{7} \right]$$

$$= (7 \times 5) + \frac{1}{2} \times \frac{22}{7} \times 3.5 \times 3.5$$

$$= 35 + \frac{1}{2} \times \frac{22}{7} \times 3.5 \times 3.5$$

$$= 35 + (5.5 \times 3.5) \quad \frac{5.5 \times 3.5}{275}$$

$$= 35 + 19.25 \quad \frac{165}{1928}$$

$$= 54.25 \text{ Sq. ft.}$$

Ans: (4) 54.25 sq ft

108

Let Cost of Whisk = 100.

$$\frac{115}{100} \times \text{original cost} = 805$$

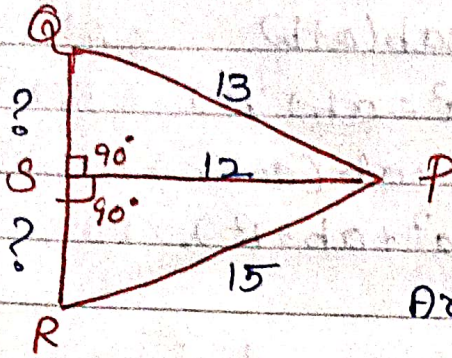
$$= \begin{array}{r} 35 \quad 20 \\ \cancel{805} \times \cancel{100} \\ \hline 115 \\ 23 \end{array}$$

$$= 35 \times 20 = 700$$

Ans: (3) ₹ 700

D. B. Cannon & D. P. R. 18

109.



$\angle Q = 90^\circ$ Use, Pythagorean Thm.
பயனம் செய்யு.

$$\text{Area of } \Delta^k = \frac{1}{2} b h. \quad \left| \begin{array}{l} \text{given} \\ h = 12 \\ b = ? \end{array} \right.$$

$$b = QS + SR$$

$$\Delta PQR \text{ Area} = \Delta PQS \text{ Area} + \Delta PSR \text{ Area}$$

In ΔPQS

$$QS^2 + SP^2 = PQ^2$$

$$QS^2 + 12^2 = 13^2$$

$$QS^2 = 13^2 - 12^2 = 169 - 144$$

$$QS^2 = 25 = 5^2$$

$$QS = 5$$

In ΔPSR

$$SR^2 + PS^2 = PR^2$$

$$SR^2 + 12^2 = 15^2$$

$$SR^2 = 15^2 - 12^2 = 225 - 144$$

$$SR^2 = 81 = 9 \times 9$$

$$SR = 9$$

$$\text{base} = QS + SR = 5 + 9 = 14 \text{ cm.}$$

$$\Delta^k \text{ Area} : \frac{1}{2} \times b \times h$$

$$= \frac{1}{2} \times 14 \times 12$$

$$= \frac{1}{2} \times 14 \times 12$$

$$\frac{7 \times 12}{1}$$

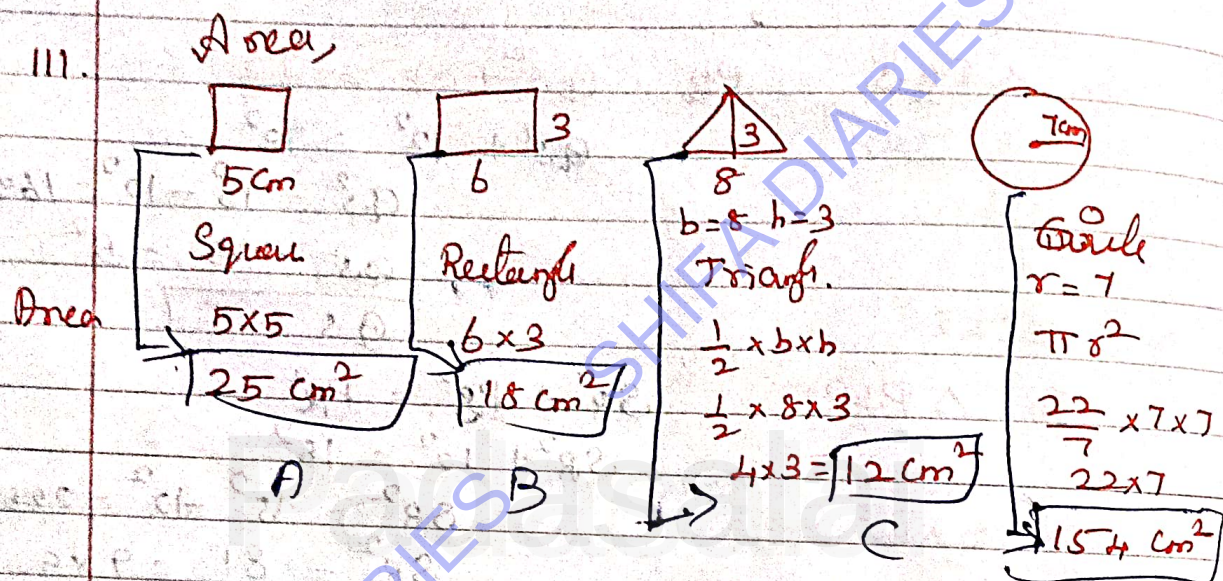
$$= 84 \text{ Sq. cm.}$$

$$\text{Ans: (D) } 84 \text{ Sq. cm}$$

110. a. $(a+b)^3 = a^3 + b^3 + 3ab(a+b)$ (ii)
 b. $a^3 + b^3 = (a+b)^3 (a^2 - ab + b^2)$ (iii)
 c. $(a-b)^3 = (a-b)^2 - 3ab(a-b)$ (iv)
 d. $(a^3 - b^3) = (a-b)(a^2 + ab + b^2)$ (i)

Ans: (i) a - ii, b - iii, c - iv, d - i.

111.



Ans (i) $C < B < A < D$