

## 1. Questions

**Study the following information carefully and answer the following questions.**

The given table graph shows the number of sweaters(Crew neck + Polo neck ) produced by five different companies namely A, B, C, D and E. It also shows the difference between the number of Crew neck sweaters manufactured and the number of Polo neck sweaters produced in these companies.

Name of the company	Total number of sweaters produced	Difference between the number of crew neck sweaters produced and the number of Polo neck sweaters produced
A	800	400
B	1040	400
C	560	200
D	1440	900
E	300	100

**Note:**

I). Total number of sweaters produced = Number of Crew neck sweaters produced + Number of Polo neck sweaters produced.

II). Total number of sweaters produced = Number of sweaters sold + Number of sweaters unsold.

III). The number of crew neck sweaters produced is greater than the number of polo neck sweaters produced.

**If the number of sweaters sold by companies B and C is 66.66% and 25% of the number of sweaters unsold in these companies respectively. Find the total number of sweaters sold by these companies together.**

- a. 100
- b. 690
- c. 528
- d. 258
- e. 825

## 2. Questions

**What is the difference between the average number of crew neck sweaters produced by company A and B together and the average number of Polo neck sweaters produced by company D and E together?**

- a. 380
- b. 574

- c. 281
- d. 754
- e. 475

#### 3. Questions

**If 30% of the total number of Crew neck sweaters produced by company A is S% of the total number of sweaters produced by company E. Find the value of (S+20).**

- a. 160
- b. 80
- c. 40
- d. 70
- e. 100

#### 4. Questions

**The ratio between the number of sold to unsold Polo neck Sweaters in companies B and C is 1:4 and 4:5 respectively. Find the difference between the number of unsold polo sweaters in both the companies together.**

- a. 156
- b. 390
- c. 760
- d. 295
- e. 170

#### 5. Questions

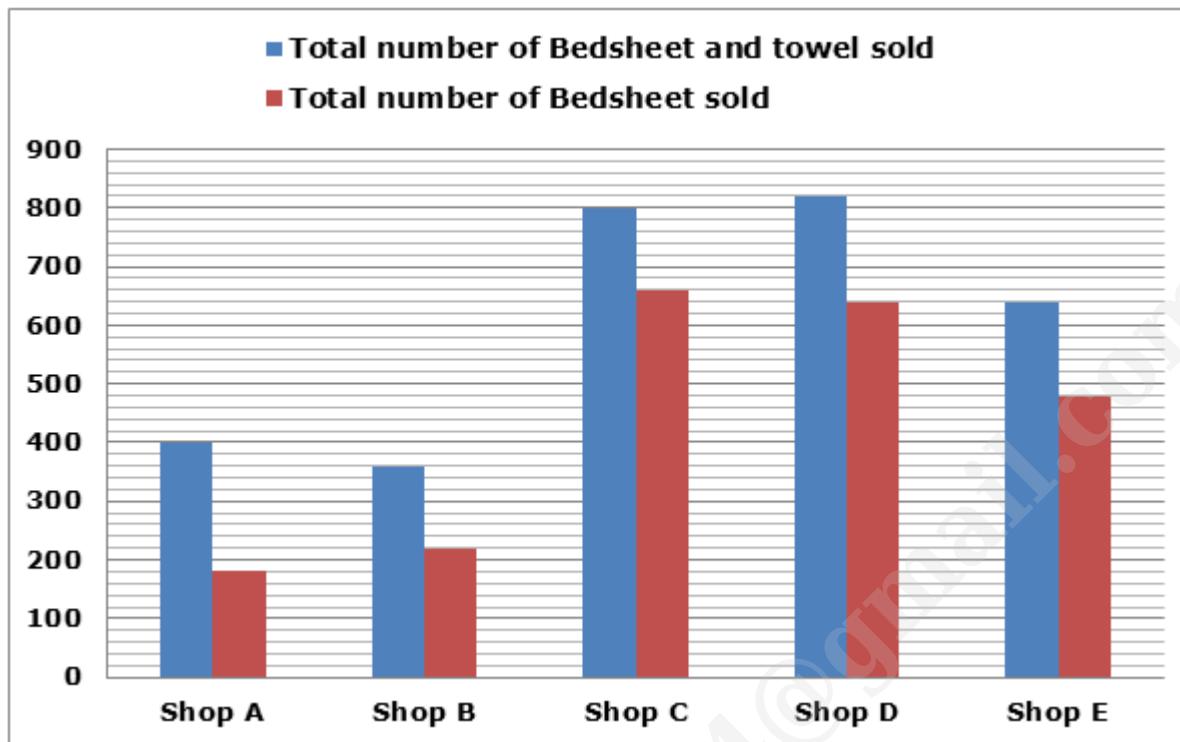
**The selling price of each crew neck sweater is Rs.1500 and the selling price of each polo neck sweater is Rs.1400. Each crew neck sweater and polo neck sweater makes a profit of Rs.200 and Rs.100 respectively. Find the total profit made by company E after selling 25% of each sweater that is produced by company E.**

- a. Rs.23690
- b. Rs.4590
- c. Rs.67800
- d. Rs.12500
- e. Rs.51200

#### 6. Questions

**Study the following information carefully and answer the following questions.**

Given bar graph shows the number of Bedsheets and Towels sold by five shopkeepers namely A, B, C, D and E in January 2024 and the total number of Bedsheets sold by these companies together.

**Note :**

i). Total number of articles sold = Number of towels sold + number of Bedsheets sold

**The number of bedsheets sold in shop A is P% of the total number of articles sold by shop B and the total number of towels sold by shop E is Q% of the total number of articles sold by shop C. Find the value of (P+Q).**

- a. 90
- b. 10
- c. 100
- d. 50
- e. 70

**7. Questions**

**The ratio between the total number of towels sold to unsold in shops A and B is 2:1 and 2:7 respectively. The Number of towels unsold in shop A is how much more or less than that of B.**

- a. 561 more
- b. 803 less
- c. 710 less
- d. 380 less

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- e. 400 more

#### 8. Questions

**The selling price of each bedsheets which is sold in shops D and E is Rs.200 and Rs.900 respectively. Find the average selling price of each bedsheets that is sold in both companies.**

- a. 500
- b. 600
- c. 4100
- d. 800
- e. 100

#### 9. Questions

**20% of the difference between the number of bedsheets sold in shops A and E is what percentage of the total number of articles sold in shop C?**

- a. 8.1%
- b. 7.5%
- c. 5%
- d. 9.4%
- e. 6.99%

#### 10. Questions

**Find the ratio between the total number of Towels sold in shops C and E to the total number of Bedsheets sold in shops A and B together.**

- a. 3:1
- b. 2:5
- c. 5:1
- d. 6:7

#### 11. Questions

**Ramesh Marked up the price of the television at 40% above its cost price and sold at  $\frac{3}{7}$ th of its Marked price. The cost price of the refrigerator is same as the selling price of the television. If the difference between the cost price of the refrigerator and the Marked price of the television is Rs.800, then find the difference between the Cost price of both articles.**

- a. Rs.150
- b. Rs.560

- c. Rs.200
- d. Rs.400
- e. Rs.570

**12. Questions**

**A 480-litre mixture contains milk and water in a ratio of 2:3 respectively. If P litre of milk is taken out and replaced with water, then the ratio between the milk and water becomes 3:5, then find the value of 'P+20'.**

- a. 32
- b. 45
- c. 17
- d. 12
- e. 56

**13. Questions**

**A boat covers a distance of 120 km upstream in 6 hours. If the speed of the boat downstream is 20% more than the speed of the boat in still water, then what is the distance covered by the boat along with the stream in 5 hours?**

- a. 350 km
- b. 450 km
- c. 110 km
- d. 59 km

**14. Questions**

**Four years ago , the age of Nina was four times the age of Sami 5 years ago. If the present age of Sami is 45% of the present age of Nina, then find the present age of Sami.**

- a. 25 years
- b. 2 years
- c. 7 years
- d. 9 years
- e. 5 years

**15. Questions**

**The ratio between the sides of the two squares is 2:3 respectively and the difference between the area of the two squares is 320 sq.meters, Find the area of the larger square.**

- a.  $890 \text{ m}^2$
- b.  $576 \text{ m}^2$
- c.  $270 \text{ m}^2$
- d.  $180 \text{ m}^2$
- e.  $721 \text{ m}^2$

**16. Questions**

**A and B entered into a partnership with an investment of Rs.4,14,000 and Rs.7,29,000. After 3 months,C joined with the investment of Rs.1,44,000. If the difference between the profit share received by A and C at the end of one year is Rs.1360. Find the profit amount received by C.**

- a. Rs.900
- b. Rs.840
- c. Rs.104
- d. Rs.510
- e. Rs.480

**17. Questions**

**Anu divided 20% of her salary among her three friends, Ritu, Renuka and Reema. The amount received by Ritu is 20% more than the amount received by Renuka which is Rs.200 less than the amount received by Reema. The difference between the amount received by Ritu and Reema is Rs.400. Find the monthly salary of Anu.**

- a. Rs.49000
- b. Rs.50000
- c. Rs.51230
- d. Rs.25000
- e. Rs.78900

**18. Questions**

**Train 'A' can cross a pole in 20 seconds. The length of train B is 40% more than the length of train A, and the ratio between the speed of train A to train B is 5:7. Find the time taken by both trains to cross each other when they are crossing each other in opposite directions. The length of train A is 500 meters.**

- a. 2 sec
- b. 5 sec

- c. 20 sec
- d. 15 sec
- e. 25 sec

**19. Questions**

**A can do a piece of work in 30 days whereas B can do the same work in 25 days. The efficiency of C is 20% more than the efficiency of A. Find the time taken by C and B to complete 60% of the work, when they are working together.**

- a. 9.5 days
- b. 10 days
- c. 5 days
- d. 8 days
- e. 7.5 days

**20. Questions**

**Reeshu invested some amount in scheme A and scheme B in the ratio of 3:4. The money he invested in scheme A, offers 20% per annum at compound interest and the amount which is invested in scheme B offers 30% per annum at simple interest. If at the end of 2 years, Reeshu got a total interest of Rs.7,440. Find the difference between the amount that he deposited in these schemes.**

- a. Rs.4900
- b. Rs.1200
- c. Rs.500
- d. Rs.2000
- e. Rs.2050

**21. Questions**

**What value should come in the place of (?) in the following questions.**

$$\sqrt{324} * 13 + ? * 5 = 79 * \sqrt{121}$$

- a. 114
- b. 118
- c. 122
- d. 127
- e. 110

**22. Questions**

$$8 * (? + 25) = 16^2$$

- a. 8
- b. 5
- c. 7
- d. 9
- e. 2

**23. Questions**

$$(8)^? * 4 = 64^2 \div (16)^{(1/4)}$$

- a. 1
- b. 3
- c. 2
- d. 4
- e. 5

**24. Questions**

$$(741 \div 19) * \sqrt{25} + 2520 \div \sqrt{196} = ?^2 - \sqrt{625}$$

- a. 23
- b. 24
- c. 18
- d. 16
- e. 20

**25. Questions**

$$18 * 14 + ?^2 - 281 = 13 * 20$$

- a. 17
- b. 19
- c. 13
- d. 21
- e. 15

**26. Questions**

What approximate value should come in the place of (?) in the following questions?

$$39.891\% \text{ of } 224.91 + \sqrt{961} = ?^2$$

- a. 11
- b. 13
- c. 15
- d. 18
- e. 21

27. Questions

$$\sqrt{8650} * ? + 13.12^2 = 175.09\% \text{ of } 520.195$$

- a. 5
- b. 8
- c. 10
- d. 11
- e. 3

28. Questions

$$(38.19 * 14.98) \div (\sqrt{5040} - \sqrt{2700}) = ?$$

- a. 28
- b. 25
- c. 30
- d. 36
- e. 39

29. Questions

$$(2847.17 \div \sqrt{530}) * (3587.91 \div 72.94) = ?^2$$

- a. 78
- b. 75
- c. 81
- d. 84
- e. 87

30. Questions

135% of 1400 – 18 \* 9 = ?<sup>3</sup>

- a. 11
- b. 8
- c. 12
- d. 14
- e. 15

31. Questions

Find out the missing number in the following number series.

17, 19, 28, 48, 83, ?

- a. 137
- b. 147
- c. 159
- d. 130
- e. 141

32. Questions

25, 78, 137, 198, 265, ?

- a. 298
- b. 312
- c. 336
- d. 328
- e. 284

33. Questions

13, 31, 66, ?, 272, 545

- a. 128
- b. 124
- c. 130
- d. 135
- e. 138

34. Questions

4, 8, 20, 60, ?, 840

- a. 190
- b. 210
- c. 200
- d. 240
- e. 180

35. Questions

2, 26, 54, 88, 130, ?

- a. 169
- b. 172
- c. 176
- d. 182
- e. 193

36. Questions

Find out the wrong number in the following number series.

1.2, 6, 24, 72, 144, 288

- a. 72
- b. 6
- c. 144
- d. 288
- e. 24

37. Questions

46, 110, 159, 97, 72, 88

- a. 159
- b. 88
- c. 110
- d. 72
- e. 97

38. Questions

1, 5, 17, 37, 65, 108

- a. 65
- b. 5
- c. 108
- d. 37
- e. 17

39. Questions

13, 24, 34, 49, 67, 88

- a. 24
- b. 88
- c. 34
- d. 67
- e. 49

40. Questions

3, 16, 42, 59, 79, 94

- a. 94
- b. 16
- c. 42
- d. 79
- e. 59

41. Questions

In each of the following questions, two equations are given. You have to solve both the equations to find the relation between x and y.

I).  $x^2 - 32x + 256 = 0$

II).  $y^2 + 5y - 336 = 0$

- a.  $x > y$
- b.  $x \geq y$
- c.  $x = y$  or relationship can't be determined
- d.  $x < y$
- e.  $x \leq y$

**42. Questions**

**I).**  $x^2 + x - 156 = 0$

**II).**  $y^2 + 13y - 140 = 0$

- a.  $x > y$
- b.  $x \geq y$
- c.  $x = y$  or relationship can't be determined
- d.  $x < y$
- e.  $x \leq y$

**43. Questions**

**I).**  $x^2 - 4x - 21 = 0$

**II).**  $y^2 + 8y + 15 = 0$

- a.  $x > y$
- b.  $x \geq y$
- c.  $x = y$  or relationship can't be determined.
- d.  $x < y$
- e.  $x \leq y$

**44. Questions**

**I).**  $x^2 - 3x + 2 = 0$

**II).**  $y^2 - 2y + 1 = 0$

- a.  $x > y$
- b.  $x \geq y$
- c.  $x = y$  or relationship can't be determined
- d.  $x < y$
- e.  $x \leq y$

**45. Questions**

**I).**  $3x + y = 13$

**II).**  $2x + 3y = 18$

- a.  $x > y$

- b.  $x \geq y$
- c.  $x = y$  or relationship can't be determined.
- d.  $x < y$
- e.  $x \leq y$

## Explanations:

### 1. Questions

#### For company A:

Total number of sweaters produced = 800

Number of crew neck sweaters produced =  $(800+400)/2 = 600$

Number of Polo neck sweaters produced =  $800-600 = 200$

#### For company B :

Total number of sweaters produced = 1040

Number of crew neck sweaters produced =  $(1040+400)/2 = 720$

Number of Polo neck sweaters produced =  $1040-720 = 320$

#### For company C:

Total number of sweaters produced = 560

Number of crew neck sweaters produced =  $(560+200)/2 = 380$

Number of Polo neck sweaters produced =  $560-380 = 180$

#### For company D:

Total number of sweaters produced = 1440

Number of crew neck sweaters produced =  $1440+900/2 = 1170$  Number of Polo neck sweaters produced =  $1440-1170 = 270$

#### For company E:

Total number of sweaters produced = 300

Number of crew neck sweaters produced =  $300+100/2 = 200$

Number of Polo neck sweaters produced =  $300-200 = 100$

#### Answer: C

#### For company B

Let the total number of sweaters unsold =  $3x$

Total number of sweaters sold =  $2x$

5x=1040

x=208

Total number of sweaters sold=208\*2=416

### For company C

Let the total number of sweaters unsold=4x

Total number of sweaters sold=x

5x=560

x=112

Total number of sweaters sold=112

Required answer=112+416=528

## 2. Questions

### For company A:

Total number of sweaters produced =800

Number of crew neck sweaters produced=(800+400)/2=600

Number of Polo neck sweaters produced =800-600=200

### For company B :

Total number of sweaters produced=1040

Number of crew neck sweaters produced=(1040+400)/2=720

Number of Polo neck sweaters produced=1040-720=320

### For company C:

Total number of sweaters produced=560

Number of crew neck sweaters produced=(560+200)/2=380

Number of Polo neck sweaters produced=560-380=180

### For company D:

Total number of sweaters produced=1440

Number of crew neck sweaters produced=1440+900/2=1170 Number of Polo neck sweaters produced=1440-1170=270

### For company E:

Total number of sweaters produced=300

Number of crew neck sweaters produced=300+100/2=200

Number of Polo neck sweaters produced=300-200=100

**Answer: E**

The average number of crew neck sweaters produced by company A and B together=(600+720)/2=660

The average number of Polo neck sweaters produced by company D and E together=(270+100)/2=185

Required difference=660-185=475

**3. Questions****For company A:**

Total number of sweaters produced =800

Number of crew neck sweaters produced=(800+400)/2=600

Number of Polo neck sweaters produced =800-600=200

**For company B :**

Total number of sweaters produced=1040

Number of crew neck sweaters produced=(1040+400)/2=720

Number of Polo neck sweaters produced=1040-720=320

**For company C:**

Total number of sweaters produced=560

Number of crew neck sweaters produced=(560+200)/2=380

Number of Polo neck sweaters produced=560-380=180

**For company D:**

Total number of sweaters produced=1440

Number of crew neck sweaters produced=1440+900/2=1170 Number of Polo neck sweaters produced=1440-1170=270

**For company E:**

Total number of sweaters produced=300

Number of crew neck sweaters produced=300+100/2=200

Number of Polo neck sweaters produced=300-200=100

**Answer: B**

30% of the total number of crew neck sweaters produced by company A=600\*30/100=180

S=180/300\*100=60%

S+20=80

Required answer=80

**4. Questions**

**For company A:**

Total number of sweaters produced = 800

Number of crew neck sweaters produced =  $(800+400)/2 = 600$

Number of Polo neck sweaters produced =  $800-600 = 200$

**For company B :**

Total number of sweaters produced = 1040

Number of crew neck sweaters produced =  $(1040+400)/2 = 720$

Number of Polo neck sweaters produced =  $1040-720 = 320$

**For company C:**

Total number of sweaters produced = 560

Number of crew neck sweaters produced =  $(560+200)/2 = 380$

Number of Polo neck sweaters produced =  $560-380 = 180$

**For company D:**

Total number of sweaters produced = 1440

Number of crew neck sweaters produced =  $1440+900/2 = 1170$  Number of Polo neck sweaters produced =  $1440-1170 = 270$

**For company E:**

Total number of sweaters produced = 300

Number of crew neck sweaters produced =  $300+100/2 = 200$

Number of Polo neck sweaters produced =  $300-200 = 100$

**Answer: A**

Total number of Polo neck sweaters unsold in company B =  $320/5*4 = 256$

Total number of Polo neck sweaters unsold in company C =  $180/9*5 = 100$

Required difference =  $256-100 = 156$

**5. Questions****For company A:**

Total number of sweaters produced = 800

Number of crew neck sweaters produced =  $(800+400)/2 = 600$

Number of Polo neck sweaters produced =  $800-600 = 200$

**For company B :**

Total number of sweaters produced = 1040

Number of crew neck sweaters produced=(1040+400)/2=720

Number of Polo neck sweaters produced=1040-720=320

#### For company C:

Total number of sweaters produced=560

Number of crew neck sweaters produced=(560+200)/2=380

Number of Polo neck sweaters produced=560-380=180

#### For company D:

Total number of sweaters produced=1440

Number of crew neck sweaters produced=1440+900/2=1170 Number of Polo neck sweaters produced=1440-1170=270

#### For company E:

Total number of sweaters produced=300

Number of crew neck sweaters produced=300+100/2=200

Number of Polo neck sweaters produced=300-200=100

#### Answer: D

Total profit earned by selling crew neck sweaters in company E=200\*200\*1/4=Rs.10000

Total profit earned by selling Polo neck sweaters in company E=100\*100/4=Rs.2500

Required profit=2500+10,000=Rs.12,500

#### 6. Questions

Shop name	Total number of Bed sheets and Towels sold	Total number of Bedsheets sold	Total number of towels sold
A	400	180	220
B	360	220	140
C	800	660	140
D	820	640	180
E	640	480	160

#### Answer: E

P=180/360\*100=50

Q=160/800\*100=20

Required answer=50+20=70

#### 7. Questions

Shop name	Total number of Bed sheets and Towels sold	Total number of Bedsheets sold	Total number of towels sold
A	400	180	220
B	360	220	140
C	800	660	140
D	820	640	180
E	640	480	160

**Answer: D**

Number of towels unsold in shop A=220/2\*1=110

Number of towels unsold in shop B=140/2\*7=490

Required answer=490-110=380 less

#### 8. Questions

Shop name	Total number of Bed sheets and Towels sold	Total number of Bedsheets sold	Total number of towels sold
A	400	180	220
B	360	220	140
C	800	660	140
D	820	640	180
E	640	480	160

**Answer: A**

Total number of bedsheets sold in shop D=640

Total number of bedsheets sold in shop E=480

By mixture and allegation:

200 900

X

640 480

$$900-X/X-200=4/3$$

$$2700-3x=4x-800$$

$$7x=3500$$

$$x=500$$

Required answer=500

#### 9. Questions

Shop name	Total number of Bed sheets and Towels sold	Total number of Bedsheets sold	Total number of towels sold
A	400	180	220
B	360	220	140
C	800	660	140
D	820	640	180
E	640	480	160

**Answer: B**

According to the question,

$$20/100 * (480 - 180) = 60$$

$$\text{Required percentage} = 60/800 * 100 = 7.5\%$$

**10. Questions**

Shop name	Total number of Bed sheets and Towels sold	Total number of Bedsheets sold	Total number of towels sold
A	400	180	220
B	360	220	140
C	800	660	140
D	820	640	180
E	640	480	160

**Answer: C**

Total number of Towels sold in shops C and E together = 140 + 160 = 300

Total number of Bedsheets sold in shops A and B together = 180 + 220 = 400

Required answer = 3:4

**11. Questions**

**Answer: D**

Let the cost Price of the television = Rs. 100x

Marked price =  $100x * 140/100 = \text{Rs. } 140x$

Selling price of the television =  $140x * 3/7 = \text{Rs. } 60x$

Cost price of the refrigerator = Rs. 60x

According to the question,

$$140x - 60x = 800$$

$$x = 10$$

Difference between the cost price of both the articles=40x= Rs.400

## 12. Questions

**Answer: A**

Initial quantity of Milk = $480/5*2=192$  litres

Initial quantity of water = $40/5*3=288$  litres

When the same quantity of milk is taken out and replaced with water in the same quantity, in that case, the total quantity remains the same.

So the final quantity of milk= $480/8*3=180$  litres

Final quantity of water= $480/8*5=300$  litres

Value of P= $192-180=12$

Required answer= $20+12=32$

## 13. Questions

**Answer: E**

Let the speed of the boat in still water= $x$

Speed of the stream= $y$

$120/6=20$  km/hr= $x-y$

$x+y=120/100*x$

$5x+5y=6x$

$5y=x$

$x/y=5/1$

4's=20

1's=5

Speed of the boat in still water= $5*5=25$  km/hr

Speed of the stream= $5*1=5$  km/hr

Downstream speed = $30$  km/hr

Distance covered in 5 hours= $5*30=150$  km

Required answer=150 km

## 14. Questions

**Answer: D**

According to the question,

Let the age of Sami 5 years ago =  $x$

Present age of Nina =  $4x+4$

Present age of Sami =  $x+5$

$$4x+4/x+5=20/9$$

$$36x+36=20x+100$$

$$16x=64$$

$$x=4$$

Present age of Sami = 9 years

Required answer = 9 years

### 15. Questions

**Answer: B**

Sides of two square is  $2x$  and  $3x$  respectively

According to the question,

$$9x^2 - 4x^2 = 320$$

$$5x^2 = 320$$

$$x^2 = 64$$

$$x = 8$$

$$\text{Area of larger square} = (3*8)^2 = 24^2 = 576 \text{ m}^2$$

### 16. Questions

**Answer: E**

According to the question,

Profit share Ratio of A, B and C

$$4,14,000*12:7,29,000*12:1,44,000*9$$

$$=46:81:12$$

According to the question,

$$(46-12)'s = 1360$$

$$1's = 40$$

Profit made by C =  $40*12 = \text{Rs.}480$

### 17. Questions

**Answer: A**

Let the amount received by Ritu =  $\text{Rs.}6x$

Amount received by Renuka = Rs.5x

Amount received by Reema= Rs.(5x+200)

According to the question,

$$6x - 5x - 200 = 400$$

$$x = 600$$

Total amount received by her friends=16x+200= Rs.9800

Monthly salary of Anu=9800/20\*100= Rs.49000

### 18. Questions

**Answer: C**

Length of train A=500 m

Length of train B=500\*140/100=700 m

Speed of train A=500/20=25 m/s

Speed of train B=25/5\*7=35 m/s

Time taken to cross each other=1200/60=20 sec

### 19. Questions

**Answer: E**

Let the total work=150 units

Efficiency of A=150/30=5 units /day

Efficiency of B=150/25=6 units/day

Efficiency of C=5\*6/5=6 units/day

Time taken to complete 60% of the work=(60/100\*150)/12 = 90/12 = 7.5 days

### 20. Questions

**Answer: D**

Let the amount he deposited in scheme A = Rs.300x

Let the amount he deposited in scheme B = Rs.400x

Interest in scheme A =  $300x * 44/100 = \text{Rs.}132x$

Interest in scheme B =  $400x * 60/100 = \text{Rs.}240x$

$$372x = 7440$$

$$x = 20$$

Required answer =  $20 * 100 = \text{Rs.}2,000$

### 21. Questions

**Answer: D**

$$\sqrt{324} * 13 + ? * 5 = 79 * \sqrt{121}$$

$$234 + ? * 5 = 869$$

$$? = 127$$

**22. Questions****Answer: C**

$$8 * (? + 25) = 16^2$$

$$? = 7$$

**23. Questions****Answer: B**

$$(8)^? * 4 = 64^2 \div (16)^{(1/4)}$$

$$8^? * 4 = 2048$$

$$? = 3$$

**24. Questions****Answer: E**

$$(741 \div 19) * \sqrt{25} + 2520 \div \sqrt{196} = ?^2 - \sqrt{625}$$

$$195 + 180 = ?^2 - 25$$

$$400 = ?^2$$

$$? = 20$$

**25. Questions****Answer: A**

$$18 * 14 + ?^2 - 281 = 13 * 20$$

$$? = 17$$

**26. Questions****Answer: A**

$$39.891\% \text{ of } 224.91 + \sqrt{961} = ?^2$$

$$90 + 31 = ?^2$$

$$? = 11$$

**27. Questions**

**Answer: B**

$$\sqrt{8650} * ? + 13.12^2 = 175.09\% \text{ of } 520.195$$

$$93 * ? + 169 = 910$$

$$? = 8$$

**28. Questions****Answer: C**

$$(38.19 * 14.98) \div (\sqrt{5040} - \sqrt{2700}) = ?$$

$$? = 30$$

**29. Questions****Answer: A**

$$(2847.17 \div \sqrt{530}) * (3587.91 \div 72.94) = ?^2$$

$$? = 78$$

**30. Questions****Answer: C**

$$135\% \text{ of } 1400 - 18 * 9 = ?^3$$

$$1890 - 162 = ?^3$$

$$1728 = ?^3$$

$$? = 12$$

**31. Questions****Answer: A**

$$17 + 2 * 1 = 19$$

$$19 + 3 * 3 = 28$$

$$28 + 4 * 5 = 48$$

$$48 + 5 * 7 = 83$$

$$83 + 6 * 9 = \mathbf{137}$$

**32. Questions****Answer: C**

$$25 + 53 = 78$$

$$78 + 59 = 137$$

$$137 + 61 = 198$$

$198 + 67 = 265$

$265 + 71 = 336$

**33. Questions**

**Answer: D**

$13 * 2 + 5 = 31$

$31 * 2 + 4 = 66$

$66 * 2 + 3 = 135$

$135 * 2 + 2 = 272$

$272 * 2 + 1 = 545$

**34. Questions**

**Answer: B**

$4 * 2 = 8$

$8 * 2.5 = 20$

$20 * 3 = 60$

$60 * 3.5 = 210$

$210 * 4 = 840$

**35. Questions**

**Answer: D**

$2 + 24 = 26$

$26 + 28 = 54$

$54 + 34 = 88$

$88 + 42 = 130$

$130 + 52 = 182$

**36. Questions**

**Answer: D**

$1.2 * 5 = 6$

$6 * 4 = 24$

$24 * 3 = 72$

$72 * 2 = 144$

$144 * 1 = 144$

**37. Questions**

**Answer: A**

$$46 + 8^2 = 110$$

$$110 - 7^2 = 61$$

$$61 + 6^2 = 97$$

$$97 - 5^2 = 72$$

$$72 + 4^2 = 88$$

**38. Questions**

**Answer: C**

$$1 + (4 * 1) = 5$$

$$5 + (4 * 3) = 17$$

$$17 + (4 * 5) = 37$$

$$37 + (4 * 7) = 65$$

$$65 + (4 * 9) = 101$$

**39. Questions**

**Answer: A**

$$13 + 9 = 22$$

$$22 + 12 = 34$$

$$34 + 15 = 49$$

$$49 + 18 = 67$$

$$67 + 21 = 88$$

**40. Questions**

**Answer: C**

$$3 + (13 * 1) = 16$$

$$16 + (11 * 2) = 38$$

$$38 + (7 * 3) = 59$$

$$59 + (5 * 4) = 79$$

$$79 + (3 * 5) = 94$$

**41. Questions**

**Answer: B**

$$x^2 - 32x + 256 = 0$$

$$x^2 - 16x - 16x + 256 = 0$$

$$x(x - 16) - 16(x - 16) = 0$$

$$x = 16, 16$$

$$y^2 + 5y - 336 = 0$$

$$y^2 + 21y - 16y - 336 = 0$$

$$y(y + 21) - 16(y + 21) = 0$$

$$y = -21, 16$$

$$x \geq y$$

#### 42. Questions

**Answer: C**

$$x^2 + x - 156 = 0$$

$$x^2 + 13x - 12x - 156 = 0$$

$$x(x + 13) - 12(x + 13) = 0$$

$$x = 12, -13$$

$$y^2 + 13y - 140 = 0$$

$$y^2 + 20y - 7y - 140 = 0$$

$$y(y + 20) - 7(y + 20) = 0$$

$$y = 7, -20$$

Relationship between x and y cannot be established.

#### 43. Questions

**Answer: B**

$$x^2 - 4x - 21 = 0$$

$$x^2 - 7x + 3x - 21 = 0$$

$$x(x - 7) + 3(x - 7) = 0$$

$$x = 7, -3$$

$$y^2 + 8y + 15 = 0$$

$$y^2 + 5y + 3y + 15 = 0$$

$$y(y + 5) + 3(y + 5) = 0$$

$y = -5, -3$

$x \geq y$

#### 44. Questions

**Answer: B**

$$x^2 - 3x + 2 = 0$$

$$x^2 - 2x - x + 2 = 0$$

$$x(x - 2) - 1(x - 2) = 0$$

$$x = 1, 2$$

$$y^2 - 2y + 1 = 0$$

$$y^2 - y - y + 1 = 0$$

$$y(y - 1) - 1(y - 1) = 0$$

$$y = 1, 1$$

$x \geq y$

#### 45. Questions

**Answer: D**

$$3x + y = 13 \text{ ----- (1)}$$

$$2x + 3y = 18 \text{ ----- (2)}$$

From (1) and (2)

$$7x = 21$$

$$x = 3$$

$$y = 13 - 9 = 4$$

$x < y$