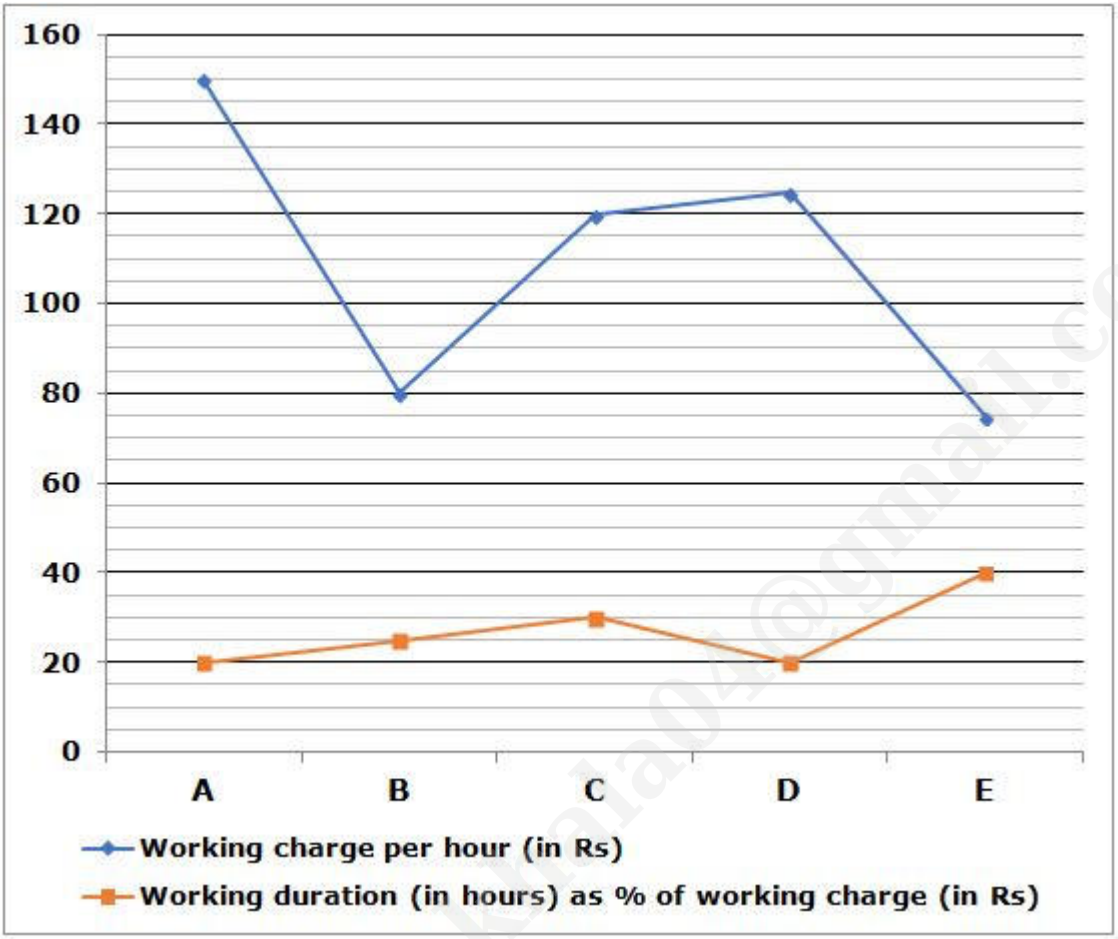
1. Questions

Study the following data carefully and answer the questions:

The given line graph shows the working charge per hour (in Rs) and working duration (in hours) as percent of the working charge per hour (in Rs) of five different workers namely A, B, C, D and E.



Note: Total wages of a worker = Working charge per hour (in Rs) × Working duration (in hours)

Which of the following statements is/are true?

P: Average of working charges per hour of A, C and E is Rs.125.

Q: Ratio of B's working charge per hour to D's working charge per hour is 12: 25.

R: C's working duration is 125% of A's working duration.

a. None is true

b. Only Q

c. Only Q and R

d. Only R

e. Only P

2. Questions

Find the C's total wages is what per cent more/less than A's total wages?

a. 6.67% more

b. 4% less

c. 5% less

d. 10% more

e. 3.33% less

3. Questions

Find the ratio of B's total wages to E's total wages.

a. 16:25

b. 8:15

c. 5:9

d. 8:9

e. 32:45

4. Questions

If the average of D's working charges per hour and F's working charges per hour is Rs.110 and the average of D's working duration and F's working duration is 30 hours, then find the average of D's total wages and F's total wages.

a. Rs. 3175

b. Rs. 3250

c. Rs. 3225

d. Rs. 3300

e. Rs. 3200

5. Questions

If the working duration of B was 5 hours more than its original working duration, then B's total wages would be what per cent more than its original total wages?

a. 12.5% more

b. 15% more

c. 5% less

d. 25% more

e. 10% less

6. Questions

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

50 % of 2500 + 65 % of 500 = 30 % of ? + 75

a. 4750

b. 4800

c. 5000

d. 4650

e. 4600

7. Questions

$2675 \div 5 + 1494 - 378 = ?^2 + 975$

a. 28

b. 32

c. 30

d. 35

e. 26

8. Questions

$36^2 - 179 + 14 * 15 = ? + 26^2$

a. 651

b. 658

c. 654

d. 648

e. 649

9. Questions

$(3375)^{1/3} + 342 + 24^2 = 389 + ?$

a. 500

b. 597

c. 544

d. 580

e. 640

10. Questions

(874 – 329) ÷ 5 – 67 = ? ÷ 8 + √361

a. 177

b. 184

c. 180

d. 179

e. 182

11. Questions

What value should come in the place of (?) in the following number series?

10.8, 12, 14.4, 18, 22.8, ?, 36

a. 28.8

b. 26.4

c. 28

d. 29.2

e. 26

12. Questions

9, 12, ?, 14, 3, 16

a. 10

b. 7

c. 5

d. 8

e. 6

13. Questions

2300, 1400, 775, 375, ?, 50, 25

a. 200

b. 225

c. 150

d. 175

e. 125

14. Questions

10, 24, ?, 80, 122, 168, 226

a. 50

b. 40

c. 54

d. 48

e. 44

15. Questions

12, ?, 30, 44, 66, 104

a. 22

b. 20

c. 18

d. 21

e. 19

16. Questions

In each question, two equations I and II are given. Solve both the equations and give the answer:

I). $3x^2 - 23x + 40 = 0$

II). $5y^2 - 18y + 16 = 0$

a. $x > y$

b. $x < y$

c. $x \geq y$

d. $x \leq y$

e. x = y or relation can't be established

17. Questions

I). $x^2 - 8x - 65 = 0$

II). $y^2 + 8y - 65 = 0$

a. $x > y$

b. $x < y$

c. $x \geq y$

d. $x \leq y$

e. x = y or relation can't be established

18. Questions

I). $4x^2 - 21x + 27 = 0$

II). $4y^2 - 21y + 26 = 0$

a. x > y

b. x < y

c. x ≥ y

d. x ≤ y

e. x = y or relation can't be established

19. Questions

I). $x^2 - 32x + 192 = 0$

II). $y^2 + 9y - 136 = 0$

a. x > y

b. x < y

c. x ≥ y

d. x ≤ y

e. x = y or relation can't be established

20. Questions

I). $3x^2 - 5x - 28 = 0$

II). $3y^2 - 19y + 28 = 0$

a. x > y

b. x < y

c. x ≥ y

d. x ≤ y

e. x = y or relation can't be established

21. Questions

Study the following data carefully and answer the questions:

The table given below shows the total earnings (in Rs) on Monday and Tuesday and the ratio of earnings

on Monday and Tuesday of five different shopkeepers namely P, Q, R, S and T.

Shopkeeper	Total earnings on Monday and Tuesday together (in Rs)	Ratio of earnings on Monday to that on Tuesday
P	1500	3: 2
Q	1800	4: 5
R	1000	11: 9
S	1250	9: 16
T	1600	5: 3

Find the average of earnings of Q, R and S on Monday.

a. Rs. 750
b. Rs. 500
c. Rs. 600
d. Rs. 800
e. Rs. 700

22. Questions

Find the difference between the total earnings of all five shopkeepers on Monday and that of Tuesday.

a. Rs. 450
b. Rs. 250
c. Rs. 350
d. Rs. 550
e. Rs. 200

23. Questions

If A's earning on Monday is 83(1/3)% of P's earning on Monday and A's earning on Tuesday is 133(1/3)% of P's earning on Tuesday, then find that A's earning on Monday is what per cent of his earning on Tuesday.

a. 93.75%
b. 83.33%
c. 90%
d. 80%
e. 86.67%

24. Questions

The total earnings of R and S together on Tuesday is what per cent more than that of R and S together on Monday.

a. 125%

b. 25%

c. 12.5%

d. 15%

e. 12%

25. Questions

Find the ratio of total earnings of P and Q together on Tuesday to the total earnings of S and T together on Monday.

a. None of these

b. 8:5

c. 32:29

d. 16:15

e. 4:3

26. Questions

Study the following data carefully and answer the questions:

There are three manufacturers A, B, and C who manufactures toys (Wooden + Plastic). Information given below is about number of toys manufactured by them.

Manufacturer A: Number of wooden toys manufactured is twice the number of plastic toys manufactured.

Manufacturer B: Number of plastic toys manufactured is 25 more than the number of wooden toys manufactured. Number of wooden toys manufactured is 2/3rd of number of plastic toys manufactured.

Manufacturer C: Total number of toys manufactured is 5 more than the number of wooden toys manufactured by B and ratio of number of plastic toys to wooden toys manufactured is 5:6.

Find the ratio of the total number of toys manufactured by B to that by C.

a. 25:11

b. 20:11

c. 15:11

d. 30:11

e. 10:11

27. Questions

If total number of wooden toys manufactured by A and B together are 130, then find the total number of plastic toys manufactured by A and C together.

a. 55
b. 105
c. 80
d. 60
e. 65

28. Questions

If the difference between the number of plastic toys manufactured by A and B are 5, then which of the following can be the number of wooden toys manufactured by A?

I). 120

II). 140

III). 160

a. Only I and III
b. Only I and II
c. Only II and III
d. Only II
e. Only III

29. Questions

Find the total number of wooden toys manufactured by B and C together.

a. 100
b. 60
c. 120
d. 80
e. 90

30. Questions

Total number of wooden toys manufactured by C is what percent of the total number of plastic toys manufactured by B?

a. 50%
b. 25%

c. 40%

d. 30%

e. 45%

31. Questions

A certain sum of Rs.7200 is invested at R% simple rate of interest for R^2 years and total interest received is Rs.9000, then find the value of 'R'.

a. 4

b. 5

c. 6

d. 2

e. 3

32. Questions

Rahul and Meena entered into a partnership and after 2 years Vinay joined them with initial capital of Rs.4000. At the end of 5 years, total profit from the partnership is Rs.22500 out of which profit share of Vinay is 2/9th which is half of profit share of Meena, then find the ratio of initial investment of Rahul to Meena.

a. 2:5

b. 1:3

c. 2:3

d. 3:5

e. 3:4

33. Questions

A mixture contains petrol and kerosene in the ratio of 4: 1 respectively. When the mixture is sold at the cost of petrol, profit amount earned is Rs.50 and when it is sold at the cost of kerosene, loss amount incurred is Rs.200. Find the ratio of cost price per L of petrol to kerosene.

a. 4:1

b. 5:2

c. 2:1

d. Cannot be determined

e. 5:3

34. Questions

Average number of books in 3 libraries A, B, and C are 1200 while number of Hindi books in those libraries are 700, 500, and 750 respectively, then find the average number of English books in all the three libraries together if libraries contain books of two languages only.

a. 550

b. 500

c. 520

d. 580

e. 540

35. Questions

A watch costs Rs.7000 which is marked up by certain percent and sold after giving a discount of Rs.1050. If profit percent earned is 25%, then find the marked-up percent on the watch.

a. 45%

b. 50%

c. 40%

d. 35%

e. 30%

36. Questions

A boat covers 'D + 15' km in downstream in same time as it covers 'D – 15' km in upstream. If the speed of the boat in still water is 15 km/h and the speed of the stream in 5 km/h, then find the value of 'D'.

a. 50

b. 30

c. 40

d. 45

e. 25

37. Questions

Due to a small and big leak in a tank, it can be emptied completely in 15 hours and 10 hours respectively. What will be the time taken by a pipe that can be attached to the tank so that it will never fill when leaks are also there?

a. 2 hours

b. 6 hours

c. 5 hours

d. 4 hours

e. 8 hours

38. Questions

ABCD is a rectangular park such that cost of tying a wire at the rate of Rs.2√41 per meter from A to C is Rs.328 and perimeter of the park is 72 m, find the area of the park.

a. 280 m^2

b. 240 m^2

c. 320 m^2

d. 300 m^2

e. 360 m^2

39. Questions

A train can cross a bridge of similar length in 36 seconds while it takes 21.6 seconds to cross a platform. Find the difference between the length of the bridge and platform if speed of the train is 50 km/h.

a. 150 m

b. 50 m

c. 200 m

d. 250 m

e. 100 m

40. Questions

20% of income of A is equal to the 30% of income of B while 10% of savings of A is equal to the 50% of savings of B, then find the correct relationship between the expenditure of A and that of B.

a. Expenditure of A > Expenditure of B

b. Expenditure of A = Expenditure of B

c. Expenditure of A < Expenditure of B

d. Expenditure of A ≥ Expenditure of B

e. Cannot be determined

Explanations:

1. Questions

Worker	Working charge per hour (in Rs)	Working duration (in hours)	Total wages (in Rs)
A	150	20% of 150 = 30	150 * 30 = 4500
B	80	25% of 80 = 20	80 * 20 = 1600
C	120	30% of 120 = 36	120 * 36 = 4320
D	125	20% of 125 = 25	125 * 25 = 3125
E	75	40% of 75 = 30	75 * 30 = 2250

Answer: A

From P:

Average of working charges per hour of A, C and E:

$$\frac{150 + 120 + 75}{3} = Rs.115$$

So, P is not true.

From Q:

Ratio of B's working charge per hour to D's working charge per hour:

80: 125 = 16: 25

So, Q is not true.

From R:

C's working duration = 36 hours

A's working duration = 30 hours

Required percentage = (36/30) * 100 = 120%

So, R is not true.

Hence, none is true.

2. Questions

Worker	Working charge per hour (in Rs)	Working duration (in hours)	Total wages (in Rs)
A	150	20% of 150 = 30	150 * 30 = 4500
B	80	25% of 80 = 20	80 * 20 = 1600
C	120	30% of 120 = 36	120 * 36 = 4320
D	125	20% of 125 = 25	125 * 25 = 3125
E	75	40% of 75 = 30	75 * 30 = 2250

Answer: B

Since, A's total wages = Rs.4500

And C's total wages = Rs.4320

So, the required percentage = $\frac{4500-4320}{4500} \times 100 = 4\%\text{less}$

3. Questions

Worker	Working charge per hour (in Rs)	Working duration (in hours)	Total wages (in Rs)
A	150	20% of 150 = 30	150 * 30 = 4500
B	80	25% of 80 = 20	80 * 20 = 1600
C	120	30% of 120 = 36	120 * 36 = 4320
D	125	20% of 125 = 25	125 * 25 = 3125
E	75	40% of 75 = 30	75 * 30 = 2250

Answer: E

Since, B's total wages = Rs.1600

And E's total wages = Rs.2250

So, the required ratio = 1600:2250 = 32:45

4. Questions

Worker	Working charge per hour (in Rs)	Working duration (in hours)	Total wages (in Rs)
A	150	20% of 150 = 30	150 * 30 = 4500
B	80	25% of 80 = 20	80 * 20 = 1600
C	120	30% of 120 = 36	120 * 36 = 4320
D	125	20% of 125 = 25	125 * 25 = 3125
E	75	40% of 75 = 30	75 * 30 = 2250

Answer: C

Since, the average of D's working charges per hour and F's working charges per hour is Rs.110.

So, F's working charges per hour = (2 * 110) – 125 = Rs.95

Since, the average of D's working duration and F's working duration is 30 hours.

So, F's working duration = (2 * 30) – 25 = 35 hours

So, F's total wages = 95 * 35 = Rs.3325

Since, D's total wages = Rs.3125

So, the required average = (3325 + 3125)/2 = Rs.3225

5. Questions

Worker	Working charge per hour (in Rs)	Working duration (in hours)	Total wages (in Rs)
A	150	20% of 150 = 30	150 * 30 = 4500
B	80	25% of 80 = 20	80 * 20 = 1600
C	120	30% of 120 = 36	120 * 36 = 4320
D	125	20% of 125 = 25	125 * 25 = 3125
E	75	40% of 75 = 30	75 * 30 = 2250

Answer: D

Since, B's working charges per hour = Rs.80

And B's original working duration = 20 hours

So, B's new working duration would be = 20 + 5 = 25 hours

And B's new total wages would be = 80 * 25 = Rs.2000

Since, B's original total wages = Rs.1600

So, the required percentage = $\frac{2000-1600}{1600} \times 100 = 25\%$ more

6. Questions

Answer: C

50 % of 2500 + 65 % of 500 = 30 % of ? + 75

1250 + 325 = 30 % of ? + 75

1575 = 30 % of ? + 75

1575 - 75 = (30 / 100) * ?

1500 = (30 / 100) * ?

5000 = ?

7. Questions

Answer: E

$2675 \div 5 + 1494 - 378 = ?^2 + 975$

$535 + 1494 - 378 = ?^2 + 975$

$1651 = ?^2 + 975$

$1651 - 975 = ?^2$

$676 = ?^2$

$26 = ?$

8. Questions

Answer: A

$36^2 - 179 + 14 * 15 = ? + 26^2$

$1296 - 179 + 210 = ? + 676$

$1327 = ? + 676$

$1327 - 676 = ?$

$651 = ?$

9. Questions

Answer: C

$(3375)^{1/3} + 342 + 24^2 = 389 + ?$

$15 + 342 + 576 = 389 + ?$

$933 = 389 + ?$

$933 - 389 = ?$

$544 = ?$

10. Questions

Answer: B

$(874 - 329) \div 5 - 67 = ? \div 8 + \sqrt{361}$

$545 \div 5 - 67 = ? \div 8 + \sqrt{361}$

$109 - 67 = ? \div 8 + 19$

$42 - 19 = ? \div 8$

$23 * 8 = ?$

184 = ?

11. Questions

Answer: A

Logic in the series:

10.8 + 1.2 = 12

12 + 2.4 = 14.4

14.4 + 3.6 = 18

18 + 4.8 = 22.8

22.8 + 6 = **28.8**

28.8 + 7.2 = 36

So, the missing term in the series = 28.8

12. Questions

Answer: B

Logic in the series:

9 + 3 = 12

12 – 5 = **7**

7 + 7 = 14

14 – 11 = 3

3 + 13 = 16

So, the missing term in the series = 7

13. Questions

Answer: C

Logic in the series:

$2300 - 30^2 = 1400$

$1400 - 25^2 = 775$

$775 - 20^2 = 375$

$375 - 15^2 = \mathbf{150}$

$150 - 10^2 = 50$

$50 - 5^2 = 25$

So, the missing term in the series = 150

14. Questions

Answer: A

Logic in the series:

$3^2 + 1 = 10$

$5^2 - 1 = 24$

$7^2 + 1 = \mathbf{50}$

$9^2 - 1 = 80$

$11^2 + 1 = 122$

$13^2 - 1 = 168$

$15^2 + 1 = 226$

So, the missing term in series = 50

15. Questions

Answer: B

Logic in the series:

12		**20**		30		44		66		104
	+8		+10		+14		+22		+38	
		+2		+4		+8		+16		

So, the missing term in the series = 20

16. Questions

Answer: A

From equation I:

$3x^2 - 23x + 40 = 0$

$3x^2 - 15x - 8x + 40 = 0$

$3x(x - 5) - 8(x - 5) = 0$

$x = 5, 8/3$

From equation II:

$5y^2 - 18y + 16 = 0$

$5y^2 - 10y - 8y + 16 = 0$

$5y(y-2)-8(y-2)=0$

$y = 2, 8/5$

Hence, x > y

17. Questions

Answer: E

From equation I:

$x^2 - 8x - 65 = 0$

$x^2 - 13x + 5x - 65 = 0$

$x(x-13) + 5(x-13) = 0$

$x = 13, -5$

From equation II:

$y^2 + 8y - 65 = 0$

$y^2 + 13y - 5y - 65 = 0$

$y(y+13) - 5(y+13) = 0$

$y = -13, 5$

Hence, relation can't be established.

18. Questions

Answer: E

From equation I:

$4x^2 - 21x + 27 = 0$

$4x^2 - 12x - 9x + 27 = 0$

$4x(x-3) - 9(x-3) = 0$

$x = 3, 9/4$

From equation II:

$4y^2 - 21y + 26 = 0$

$4y^2 - 8y - 13y + 26 = 0$

$4y(y-2) - 13(y-2) = 0$

$y = 2, 13/4$

Hence, relation can't be established.

19. Questions

Answer: C

From equation I:

$x^2 - 32x + 192 = 0$

$x^2 - 24x - 8x + 192 = 0$

$x(x - 24) - 8(x - 24) = 0$

$x = 24, 8$

From equation II:

$y^2 + 9y - 136 = 0$

$y^2 - 8y + 17y - 136 = 0$

$y(y - 8) + 17(y - 8) = 0$

$y = 8, -17$

Hence, $x \geq y$

20. Questions

Answer: E

From equation I:

$3x^2 - 5x - 28 = 0$

$3x^2 - 12x + 7x - 28 = 0$

$3x(x - 4) + 7(x - 4) = 0$

$x = 4, -7/3$

From equation II:

$3y^2 - 19y + 28 = 0$

$3y^2 - 12y - 7y + 28 = 0$

$3y(y - 4) - 7(y - 4) = 0$

$y = 4, 7/3$

Hence, relation can't be established.

21. Questions

Shopkeeper	Earning on Monday (in Rs)	Earning on Tuesday (in Rs)
P	1500 * (3/5) = 900	1500 – 900 = 600
Q	1800 * (4/9) = 800	1800 – 800 = 1000
R	1000 * (11/20) = 550	1000 – 550 = 450
S	1250 * (9/25) = 450	1250 – 450 = 800
T	1600 * (5/8) = 1000	1600 – 1000 = 600

Answer: C

The earning of Q on Monday = Rs.800

The earning of R on Monday = Rs.550

The earning of S on Monday = Rs.450

Required average = (800 + 550 + 450)/3 = Rs.600

22. Questions

Shopkeeper	Earning on Monday (in Rs)	Earning on Tuesday (in Rs)
P	1500 * (3/5) = 900	1500 – 900 = 600
Q	1800 * (4/9) = 800	1800 – 800 = 1000
R	1000 * (11/20) = 550	1000 – 550 = 450
S	1250 * (9/25) = 450	1250 – 450 = 800
T	1600 * (5/8) = 1000	1600 – 1000 = 600

Answer: B

Total earnings of all five shopkeepers on Monday:

900 + 800 + 550 + 450 + 1000 = Rs.3700

Total earnings of all five shopkeepers on Tuesday:

600 + 1000 + 450 + 800 + 600 = Rs.3450

Required difference = 3700 – 3450 = Rs.250

23. Questions

Shopkeeper	Earning on Monday (in Rs)	Earning on Tuesday (in Rs)
P	1500 * (3/5) = 900	1500 – 900 = 600
Q	1800 * (4/9) = 800	1800 – 800 = 1000
R	1000 * (11/20) = 550	1000 – 550 = 450
S	1250 * (9/25) = 450	1250 – 450 = 800
T	1600 * (5/8) = 1000	1600 – 1000 = 600

Answer: A

Since, P's earning on Monday = Rs.900

So, A's earning on Monday = 83(1/3)% of 900 = Rs.750

Since, P's earning on Tuesday = Rs.600

So, A's earning on Tuesday = 133(1/3)% of 600 = Rs.800

Required percentage = (750/800) * 100 = 93.75%

24. Questions

Shopkeeper	Earning on Monday (in Rs)	Earning on Tuesday (in Rs)
P	1500 * (3/5) = 900	1500 – 900 = 600
Q	1800 * (4/9) = 800	1800 – 800 = 1000
R	1000 * (11/20) = 550	1000 – 550 = 450
S	1250 * (9/25) = 450	1250 – 450 = 800
T	1600 * (5/8) = 1000	1600 – 1000 = 600

Answer: B

Total earnings of R and S together on Monday = 550 + 450 = Rs.1000

Total earnings of R and S together on Tuesday = 450 + 800 = Rs.1250

Required percentage = $\frac{1250-1000}{1000} \times 100 = 25\%$

25. Questions

Shopkeeper	Earning on Monday (in Rs)	Earning on Tuesday (in Rs)
P	1500 * (3/5) = 900	1500 – 900 = 600
Q	1800 * (4/9) = 800	1800 – 800 = 1000
R	1000 * (11/20) = 550	1000 – 550 = 450
S	1250 * (9/25) = 450	1250 – 450 = 800
T	1600 * (5/8) = 1000	1600 – 1000 = 600

Answer: C

Total earnings of P and Q together on Tuesday = 600 + 1000 = Rs.1600

Total earnings of S and T together on Monday = 450 + 1000 = Rs.1450

Required ratio = 1600:1450 = 32:29

26. Questions

Let the number of wooden and plastic toys manufactured by A are 2x and x respectively.

Since, number of wooden toys manufactured are 2/3rd of number of plastic toys manufactured, then let number of wooden toys and plastic toys manufactured by B are 2y and 3y respectively.

According to the question:

3y – 2y = 25

y = 25

Number of wooden toys manufactured by B = 2y = 50

Number of plastic toys manufactured by B = 3y = 75

Total number of toys manufactured by C = 50 + 5 = 55

Number of wooden toys manufactured by C = 55 * 6/11 = 30

Number of plastic toys manufactured by C = 55 * 5/11 = 25

Manufacturer	Wooden toys manufactured	Plastic toys manufactured
A	2x	x
B	50	75
C	30	25

Answer: A

Total number of toys manufactured by B = 50 + 75 = 125

Total number of toys manufactured by C = 55

Required ratio = 125:55 = 25:11

27. Questions

Let the number of wooden and plastic toys manufactured by A are 2x and x respectively.

Since, number of wooden toys manufactured are 2/3rd of number of plastic toys manufactured, then let number of wooden toys and plastic toys manufactured by B are 2y and 3y respectively.

According to the question:

3y – 2y = 25

y = 25

Number of wooden toys manufactured by B = 2y = 50

Number of plastic toys manufactured by B = 3y = 75

Total number of toys manufactured by C = 50 + 5 = 55

Number of wooden toys manufactured by C = 55 * 6/11 = 30

Number of plastic toys manufactured by C = 55 * 5/11 = 25

Manufacturer	Wooden toys manufactured	Plastic toys manufactured
A	2x	x
B	50	75
C	30	25

Answer: E

Total number of wooden toys manufactured by A and B together = 130

Number of wooden toys manufactured by A =2x = 130 – 50 = 80

x = 40

Total number of plastic toys manufactured by A and C together = x + 25 = 40 + 25 = 65

28. Questions

Let the number of wooden and plastic toys manufactured by A are 2x and x respectively.

Since, number of wooden toys manufactured are 2/3rd of number of plastic toys manufactured, then let number of wooden toys and plastic toys manufactured by B are 2y and 3y respectively.

According to the question:

3y – 2y = 25

y = 25

Number of wooden toys manufactured by B = 2y = 50

Number of plastic toys manufactured by B = 3y = 75

Total number of toys manufactured by C = 50 + 5 = 55

Number of wooden toys manufactured by C = 55 * 6/11 = 30

Number of plastic toys manufactured by C = 55 * 5/11 = 25

Manufacturer	Wooden toys manufactured	Plastic toys manufactured
A	2x	x
B	50	75
C	30	25

Answer: C

Case 1: When number of plastic toys manufactured by A are more than B.

Number of plastic toys manufactured by A = x = 75 + 5 = 80

Number of wooden toys manufactured by A = 2x = 160

Case 2: When number of plastic toys manufactured by A are less than B.

Number of plastic toys manufactured by A = x = 75 – 5 = 70

Number of wooden toys manufactured by A = 2x = 140

29. Questions

Let the number of wooden and plastic toys manufactured by A are 2x and x respectively.

Since, number of wooden toys manufactured are 2/3rd of number of plastic toys manufactured, then let number of wooden toys and plastic toys manufactured by B are 2y and 3y respectively.

According to the question:

3y – 2y = 25

y = 25

Number of wooden toys manufactured by B = 2y = 50

Number of plastic toys manufactured by B = 3y = 75

Total number of toys manufactured by C = 50 + 5 = 55

Number of wooden toys manufactured by C = 55 * 6/11 = 30

Number of plastic toys manufactured by C = 55 * 5/11 = 25

Manufacturer	Wooden toys manufactured	Plastic toys manufactured
A	2x	x
B	50	75
C	30	25

Answer: D

Total number of wooden toys manufactured by B and C together = 50 + 30= 80

30. Questions

Let the number of wooden and plastic toys manufactured by A are 2x and x respectively.

Since, number of wooden toys manufactured are 2/3rd of number of plastic toys manufactured, then let number of wooden toys and plastic toys manufactured by B are 2y and 3y respectively.

According to the question:

3y – 2y = 25

y = 25

Number of wooden toys manufactured by B = 2y = 50

Number of plastic toys manufactured by B = 3y = 75

Total number of toys manufactured by C = 50 + 5 = 55

Number of wooden toys manufactured by C = 55 * 6/11 = 30

Number of plastic toys manufactured by C = 55 * 5/11 = 25

Manufacturer	Wooden toys manufactured	Plastic toys manufactured
A	2x	x
B	50	75
C	30	25

Answer: C

Total number of wooden toys manufactured by C = 30

Total number of plastic toys manufactured by B = 75

Required percent = 30/75 * 100 = 40%

31. Questions

Answer: B

Principal amount = Rs.7200

Interest received = Rs.9000

According to the question:

$$\frac{7200 * R * R^2}{100} = 9000$$

$R^3 = 125$

$R^3 = 5^3$

R = 5

32. Questions

Answer: E

Let initial investment of Rahul and Meena is 'x' and 'y' respectively.

Ratio of profit share of Rahul to Meena, and Vinay = x:y

Profit share of Vinay = 22500 * 2/9 = ₹5000

Profit share of Meena = 5000 * 2 = ₹10000

Profit share of Rahul = 22500 – 5000 – 10000 = ₹7500

Now,

x:y = 7500:10000

x:y = 3:4

33. Questions

Answer: D

Let quantity of petrol and kerosene in the mixture is 4x and x respectively.

Let cost/L of petrol and kerosene is 'a' and 'b' respectively.

Cost of the mixture = 4x * a + x * b = (4ax + xb)

Selling price of the mixture when sold at the cost of petrol = 5x * a = 5ax

Selling price of the mixture when sold at the cost of kerosene = 5x * b = 5bx

According to the question:

5ax – (4ax + xb) = 50 => x(a – b) = 50 …….. (1)

(4ax + xb) – 5xb = 200 => 4x(a – b) = 200 …….. (2)

Since both the equations (1) and (2) are similar. So, we cannot determine the ratio of cost prices of petrol and kerosene.

34. Questions

Answer: A

Total number of books in all the 3 libraries together = 3 * 1200 = 3600

Total number of Hindi books in all the 3 libraries together = 700 + 500 + 750 = 1950

Total number of English books in all the 3 libraries together = 3600 – 1950 = 1650

Required average = 1650/3 = 550

35. Questions

Answer: C

Cost price = Rs.7000

Selling price when profit percent is 25% = 125% of 7000 = Rs.8750

Marked price when discount of Rs.1050 is given = 8750 + 1050 = Rs.9800

Marked up amount = 9800 – 7000 = Rs.2800

Marked up percent = 2800/7000 * 100 = 40%

36. Questions

Answer: D

Downstream speed of boat = 15 + 5 = 20 km/h

Upstream speed of boat = 15 – 5= 10 km/h

According to the question:

$$\frac{D+15}{20}=\frac{D-15}{10}$$

D + 15 = 2D – 30

D = 45

37. Questions

Answer: B

Since the tank will never fill means time taken by pipe alone to fill the tank is equal to the time taken by both the leaks together to empty the tank.

Time taken by both the leaks together to empty the tank = 1/[1/15 + 1/10]

= 30/(2 + 3)

= 30/5

= 6 hours

So, time taken by pipe alone to fill the tank = 6 hours

38. Questions

Answer: C

Let length and width of the park is ‘l’ m and ‘b’ m respectively.

Length of wire from A to C = $\sqrt{(l^2 + b^2)}$

Cost of tying the wire = $\sqrt{(l^2 + b^2)} * 2\sqrt{41} = 328$

$\sqrt{(l^2 + b^2)} = 164/\sqrt{41} = (41 * 4)/\sqrt{41} = 4\sqrt{41}$

$l^2 + b^2 = 656$ ……. (1)

Perimeter of park = 2(l + b) = 72

l + b = 36…….. (2)

$(l + b)^2 + (l – b)^2 = 2(l^2 + b^2)$

$36^2 + (l – b)^2 = 2 * 656$

$(l – b)^2 = 16$

$l – b = 4$ …….. (3)

From (2) and (3):

$l = 20$ and $b = 16$

Area of park = $lb = 320\ m^2$

39. Questions

Answer: C

Let the length of train and bridge is 'x' m each.

According to the question:

$(x + x) = 50 * 36 * 5/18$

$2x = 500$

$x = 250m$

Let the length of the platform = 'y' m

$(x + y) = 50 * 21.6 * 5/18$

$x + y = 300$

$y = 50m$

Difference between the length of bridge and platform = 250 – 50 = 200 m

40. Questions

Answer: E

20% of income of A = 30% of income of B

Income of A: Income of B = 30: 20 = 3: 2 = 3a: 2a

10% of savings of A = 50% of savings of B

Savings of A: Savings of B = 50: 10 = 5: 1 = 5b: b

Expenditure of A = 3a – 5b

Expenditure = B = 2a – b

We cannot determine any relation between the expenditure of A and B.