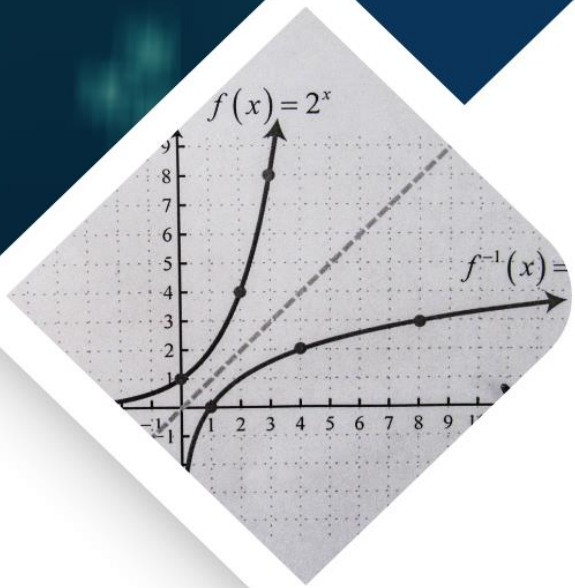
FOR SBI IBPS PO PRE

2025

101

QUANT CHECKLIST

Practice Module by Aashish Arora



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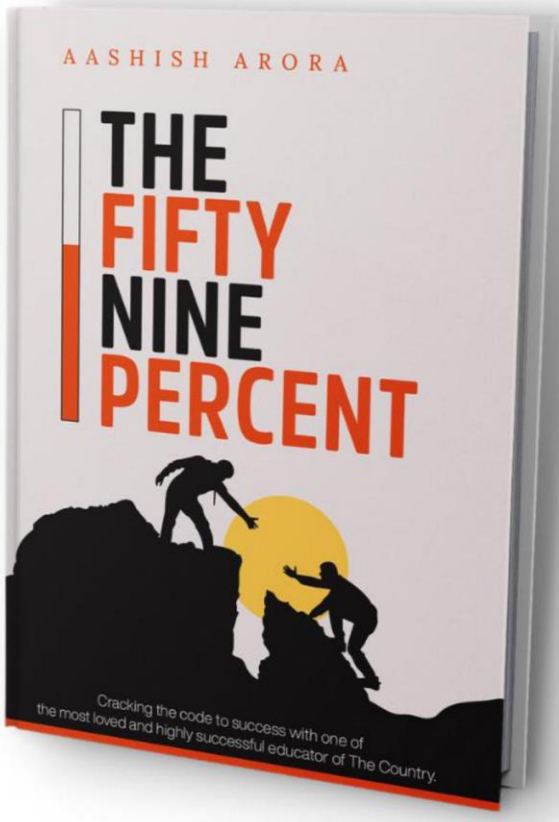
THE FIFTY NINE PERCENT

By Aashish Arora



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CONTENTS

DEAR STUDENTS

We all dream about the day when we will crack XYZ examination, when will get a five-six-digit big salary, travel to all those beautiful places, buy new spacious house for our parents. Our entire focus is on the success, not the struggle. And it's totally understandable — because success is memorable , and everybody wants it, while the struggle is drab, disagreeable, and unattractive for the general public. But, it is the effort, struggling, and sticking to your resolutions that shapes you as a person. Success is a reward for giving your best, but it's not always within your control whether and when you get to enjoy it. Whenever you find yourself discouraged by your lack of success, remind yourself that it is not giving-up and working hard is your real reward. It's in your hands whether you allow yourself to see the rewards the struggle generates or ignore them, Whether you mindlessly see the end result as the sole indicator of success. I failed numerous times in life. I could have despaired that I had lost so much time and effort and money, but I hadn't really failed. I had been true to my values of pursuing the life I wanted. I kept going, despite the obstacles I constantly encountered along the way. Eventually my efforts paid off. But even if it would have taken longer to get my results — the struggle would still have been worth it for the immense changes I underwent on the journey to pursue my dreams. Eventually my efforts paid off, but even if it had taken longer to get the results — the struggle would still have been worth it for the immense changes I underwent on the journey to pursue my dreams.

Rise and Shine.

Aashish Arora

1. SIMPLIFICATION AND APPROXIMATION

Direction: What value should come in place of the question mark (?) in the following question?

(1) 81×16 − 14×24 + 18×12 = ? × 8

(a) 148

(b) 150

(c) 155

(d) 142

(e) None of these

(2) 72×49/36 + 27×34/17 = ?

(a) 144

(b) 152

(c) 165

(d) 172

(e) None of these

(3)15.38% of 585 + 80% of 65 = ? + 13

(a) 129

(b) 125

(c) 130

(d) 122

(e) None of these

(4) $72\times108/\ 8\times6\times18 + 125\%\text{ of }1200 = ?^2 - 91$

(a) 48

(b) 50

(c) 40

(d) 55

(e) None of these

(5) $(24^2 + 18^2) \div 30 + ? = 17^2$

(a) 280

(b) 260

(c) 255

(d) 259

(e) None of these

(6)$(3^4 \times 3^4 \times 3^7) / (3^3 \times 3^5) = 3^{?+4}$

(a) 8

(b) 6

(c) 3

(d) 2

(e) None of these

(7)(128 + 16 × ?) = 18 × 8 − 98 × 2

(a) -12.20

(b) 11.45

(c) -11.25

(d) 12.70

(e) None of these

(8)5662 + 7448 − 10082 + 54 = ? + 1485

(a) 1597

(b) 1566

(c) 1564

(d) 1598

(e) None of these

(9) (? − 6) × 1150 + 562 = 39 × 15

(a) 5.05

(b) 6

(c) 7.5

(d) 5.5

(e) None of these

(10) 48% of 1200 + 72% of 850 = ? + 36 × 12 + 7^3

(a) 413

(b) 418

(c) 415

(d) 410

(e) None of these

(11) √784 × 16 + 3/7 of √3136 + 14 × $\sqrt[3]{5832}$ = ?

(a) 720

(b) 700

(c) 724

(d) 780

(e) None of these

(12)(√9216 + 336) ÷ (√144 × √81) = $?^2$ ÷ 36

(a) 12

(b) 15

(c) 16

(d) 18

(e) None of these

(13) 40% of (106 × 18 - 36 × 24 + √256) = ?

(a) 425

(b) 424

(c) 474

(d) 476

(e) None of these

(14) [(360 ÷ 48) × 14] - 7 × 9 = ?

(a) 48

(b) 45

(c) 42

(d) 49

(e) None of these

(15) (5/19) of 1197 + 17 × 5 = ? × 8

(a) 60

(b) 50

(c) 80

(d) 90

(e) None of these

(16) $(76 / 17) \div (19 / 68) + 18^2 = ?$

(a) 340

(b) 290

(c) 398

(d) 295

(e) None of these

(17) $(12.36 - 19.48 + 28.42 + 11.7) \times 7 = ?$

(a) 104

(b) 231

(c) 206

(d) 118

(e) None of these

(18) $(\sqrt{36} \times 24) \div 16 + 18.5 \times 2 = ?$

(a) 46

(b) 49

(c) 48

(d) 50

(e) None of these

(19)$\sqrt{(18 \times 12.5)} + \sqrt{(3^2 \times 4^2)} + 27^2 = ?$

(a) 741

(b) 756

(c) 714

(d) 756

(e) None of these

(20) $(2/5 + 1/2 + 2/1 - \frac{2}{3}) \times 15 = ?$

(a) 30.5

(b) 32.5

(c) 33.5

(d) 38.5

(e) None of these

Answers:

(1) a

(2) b

(3) a

(4) c

(5) d

(6) c

(7) c

(8) a

(9) b

(10) a

(11) c

(12) a

(13) b

(14) c

(15) b

(16) a

(17) b

(18) a

(19) b

(20) c

Solutions:

1) $81\times16 - 14\times24 + 18\times12 = ? \times 8$

$1296 - 336 + 216 = 8x$

1176/8 = 147

2) $72\times49/36 + 27\times34/17 = ?$

98 + 54 = 152

3) 15.38% of 585 + 80% of 65 = ? + 13

2/13 × 585 + 52 = ? + 13

90 + 52 = ? + 13

142 − 13 = 129

4) 72×108/ 8×6×18 + 125% of 1200 = ?² − 91

9 + 1500 = ?² − 91

1509 + 91 = 1600 = 40

5) $(24^2 + 18^2) \div 30 + ? = 17^2$

900 ÷ 30 + ? = 289

30 + ? = 289

? = 259

6) $(3^4 \times 3^4 \times 3^7) / (3^3 \times 3^5) = 3^{?+4}$

$3^{15} / 3^8 = 2^{?+4}$

? = 3

7) (128 + 16 × ?) = 18 × 8 − 98 × 2

= (16 × ?) = - 52 - 128

16 × ? = -180

= -11.25

8) 5662 + 7448 − 10082 + 54 = ? + 1485

= 3084 − 1485 = 1597

9) (? − 6) × 1150 + 562 = 39 × 15

(? − 6) × 1150 + 562 = 585

(? − 6) × 1150 = 23

(? − 6) × 50 = 1

? - 6 = 0.02

? = 6.02

10) 48% of 1200 + 72% of 850 = ? + 36 × 12 + 7^3

576 + 612 = ? + 432 + 343

1188 = ? + 775

? = 413

11) $\sqrt{784} \times 16 + 3/7$ of $\sqrt{3136} + 14 \times \sqrt[3]{5832} = ?$

28 × 16 + 3/7 × 56 + 14 × 18 = ?

448 + 24 + 252 = 724

12) (√9216 + 336) ÷ (√144 × √81) = ?² ÷ 36

432/108 × 36 = 144 = 12

13) 40% of (106 × 18 - 36 × 24 + √256) = ?

40/100 × (1908 - 864 + 16) = ?

40/100 × 1060 = 424

14) [(360 ÷ 48) × 14] - 7 × 9 = ?

7.5 × 14 - 63 = ?

105 - 63 = 42

15) (5/19) of 1197 + 17 × 5 = ? × 8

315 + 85 = 8x

400 ÷ 8 = 50

16) (76 / 17) ÷ (19 / 68) + 18² = ?

76/17 × 68 ÷ 19 + 324 = ?

16 + 324 = 340

17) (12.36 - 19.48 + 28.42 + 11.7) × 7 = ?

33 × 7 = 231

18) (√36 × 24) ÷ 16 + 18.5 × 2 = ?

6 × 24 ÷ 16 + 37 = ?

9 + 37 = 46

19) √18 × 12.5 + √3² × 4² + 27² = ?

√225 + √144 + 729 = ?

15 + 12 + 729 = 756

20) (2/5 + 1/ 2 + 2/1 - ⅔) × 15 = ?

(12 + 15 + 60 - 20/30) × 15 = ?

67/30 × 15 = 33.5


FOUND ERROR?
Report the error in the checklist to
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2. ARITHMETIC QUESTIONS

(1) A shopkeeper makes a loss of 45% on selling a box full of rasgulla at Rs 247.5. At what price should he sell the same box full of rasgulla to make a profit of 60% ?

एक दुकानदार को रसगुल्लों से भरा एक डिब्बा 247.5 **रुपये में बेचने पर** 45% **की हानि होती है। रसगुल्लों से भरा वही डिब्बा उसे किस कीमत पर बेचना चाहिए कि उसे** 60% **का लाभ हो**?

(a)720

(b)700

(c)705

(d)702

(e) None of these

(2) The ratio of the price of two articles Mobile and watch are in the ratio of 4:8 last year. This year, the price of mobile is increased by 25% and that of watch by Rs 2000. If their prices are now in the ratio of 5:9, then the price of mobile last year was ?

दो वस्तुओं मोबाइल और घड़ी के मूल्य का अनुपात पिछले वर्ष 4:8 **था। इस वर्ष मोबाइल के मूल्य में** 25% **तथा घड़ी के मूल्य में** 2000 **रुपए की वृद्धि हुई है।यदि अब कीमतें** 5:9 **के अनुपात में हैं, तो पिछले वर्ष मोबाइल की कीमत थी**?

(a)8700

(b)8200

(c)8300

(d)8000

(e) None of these

(3)9 girls are arranged according to their age and their average age is 32 and average age of 5 youngest girls is 28 while age of 5 oldest girls is 36, then what is the age of fifth oldest girl ?

9 लड़कियों को उनकी आयु के अनुसार व्यवस्थित किया गया है और उनकी औसत आयु 32 है और 5 सबसे छोटी लड़कियों की औसत आयु 28 है जबकि 5 सबसे बड़ी लड़कियों की आयु 36 है, तो पांचवीं सबसे बड़ी लड़की की आयु क्या है?

(a)35

(b)32

(c)33

(d)40

(e) None of these

(4)A diamond is broken into 3 parts in the ratio of 3:5:6. The cost of diamond was directly proportional to the square of its weight. Due to this, the owner had a loss of Rs 6930.Calculate the initial cost of diamond?

एक हीरे को 3:5:6 के अनुपात में 3 भागों में तोड़ा गया। हीरे की कीमत उसके वजन के वर्ग के समानुपाती थी। इसके कारण, मालिक को 6930 रुपये का नुकसान हुआ। हीरे की प्रारंभिक लागत की गणना करें

(a)10780

(b)10705

(c)10600

(d)10800

(e) None of these

(5) The ratio of the number of books and boxes in a box is 5:6. When 44 items are drawn from the box and 30 books are put into the box, then the ratio becomes 5:3. Find the total number of items in the box initially ?

एक बॉक्स में किताबों और बॉक्स की संख्या का अनुपात 5:6 **है। जब बॉक्स से** 44 **आइटम निकाले जाते हैं और** 30 **किताबें बॉक्स में डाल दी जाती हैं, तो अनुपात** 5:3 **हो जाता है। प्रारंभ में बॉक्स में कुल वस्तुओं की संख्या ज्ञात कीजिए**?

(a)100

(b)105

(c)108

(d)150

(e) None of these

(6) How many 5-digit phone numbers can be created using the digit 0 to 9, if each number starts with 19 and no digits appear more than once?

0 **से** 9 **तक के अंकों का उपयोग करके कितने** 5-**अंकीय फ़ोन नंबर बनाए जा सकते हैं, यदि प्रत्येक संख्या** 19 **से शुरू होती है और कोई भी अंक एक से अधिक बार नहीं आता है**?

(a)336

(b)380

(c)350

(d)355

(e) None of these

(7) sufficient food for 420 students for the month of May. After 24 days, 210 students left that school. For how many days did the rest of the food last for the rest of the students?

मई महीने के लिए 420 **छात्रों के लिए पर्याप्त भोजन था।** 24 **दिनों के बाद**, 210 **छात्र उस स्कूल को छोड़कर चले गए। शेष छात्रों के लिए बचा हुआ भोजन कितने दिनों तक चला**?

(a)18

(b)15

(c)14

(d)20

(e) None of these

(8) Anuj borrowed a sum of Rs 1536 for 3 years. What will be the Cl he would have to pay if the rate of interest for first year is 12.5% p.a.,second year is 16.67% p.a. and for third year is 25% p.a. respectively ?

अनुज ने 3 **वर्षों के लिए** 1536 **रुपये उधार लिए। यदि पहले वर्ष के लिए ब्याज दर** 12.5% **प्रति वर्ष, दूसरे वर्ष के लिए** 16.67% **प्रति वर्ष तथा तीसरे वर्ष के लिए** 25% **प्रति वर्ष है, तो उसे कितना ब्याज देना होगा**?

(a)984

(b)994

(c)990

(d)980

(e) None of these

(9)The present average age of Krish, Sani and Teenu is 48 years. 30 years from now the age of Krish will be equal to the sum of present ages of Sani and Teenu. Find the present age of Krish ?

कृष, सानी और टीनू की वर्तमान औसत आयु 48 **वर्ष है। अब से** 30 **वर्ष बाद कृष की आयु सानी और टीनू की वर्तमान आयु के योग के बराबर होगी। कृष की वर्तमान आयु ज्ञात कीजिए**?

(a)54

(b)55

(c)57

(d)53

(e) None of these

(10) A shopkeeper marks his goods at 20% more and offers a discount of 14.28%. He cheats to the extent of 15.38% while buying and 16.66% while selling by using false weight. Find his overall profit percentage ?

एक दुकानदार अपने माल पर 20% **अधिक मूल्य अंकित करता है तथा** 14.28% **की छूट देता है। वह गलत वजन का उपयोग करके खरीदते समय** 15.38% **तथा बेचते समय** 16.66% **की धोखाधड़ी करता है।उसका कुल लाभ प्रतिशत ज्ञात कीजिये**?

(a)32.44%

(b)37.44%

(c)35.50%

(d)38.46%

(e) None of these

(11) After travelling 144 km, Sagar met with an accident and his speed became 5/8th of actual speed and reached 18 min late.If this accident had happened after 56 more kilometers, then he would have reached his destination 16 min late. Find the total distance travelled by him ?

144 **किलोमीटर चलने के बाद सागर का एक्सीडेंट हो गया और उसकी गति वास्तविक गति की** 5/8 **हो गई और वह** 18 **मिनट देरी से पहुंचा। यदि यह दुर्घटना** 56 **किलोमीटर चलने के बाद हुई होती, तो वह अपने गंतव्य पर** 16 **मिनट देरी से पहुंचता। उसके द्वारा तय की गई कुल दूरी ज्ञात कीजिए**?

(a)248 km

(b)268 km

(c)254 km

(d)236 km

(e) None of these

(12) If the height of a cylinder is triple and radius is reduced by 75%, then what is the percentage change in its volume ?

यदि एक बेलन की ऊंचाई तीन गुनी कर दी जाए तथा त्रिज्या 75% **कम कर दी जाए, तो इसके आयतन में कितने प्रतिशत परिवर्तन होगा**?

(a)75.28%

(b)80.16%

(c)81.25%

(d)78.25%

(e) None of these

(13) Anjana threw two dice simultaneously. What is the probability of getting two numbers whose product is even ?

अंजना ने एक साथ दो पासे फेंके। दो संख्याएँ आने की प्रायिकता क्या है जिनका गुणनफल सम है?

(a)3/4

(b)11/6

(c)12/7

(d)2/6

(e) None of these

(14) The average weight of chocolates in 40 boxes is 800gm. The total weight of all the boxes is 5.6kg. Find the average weight of a box with chocolates in it ?

40 **डिब्बों में चॉकलेट का औसत वजन** 800 **ग्राम है। सभी डिब्बों का कुल वजन** 5.6 **किलोग्राम है। चॉकलेट वाले एक डिब्बे का औसत वजन ज्ञात कीजिए**?

(a)900

(b)980

(c)940

(d)950

(e) None of these

(15) 4 men and 5 women can complete a work in 18 days, while 9 men and 15 women can complete the same work in 9 days. A woman is paid Rs 34 for her work per day. What is the amount received by a man per day?

4 पुरुष और 5 महिलाएँ एक काम को 18 दिनों में पूरा कर सकते हैं, जबकि 9 पुरुष और 15 महिलाएँ उसी काम को 9 दिनों में पूरा कर सकते हैं। एक महिला को उसके काम के लिए प्रतिदिन 34 रुपये का भुगतान किया जाता है।एक आदमी को प्रतिदिन कितनी राशि मिलती है?

(a)148

(b)170

(c)150

(d) 160

(e) None of these

(16) Mohan and Shilu started a business with investment of Rs. 6,000 and Rs. 8,000 respectively. After five months, Mohan took out one-third of his capital. Again, after three more months, Shilu took out half of his capital while at the end of a year, they earned a profit of Rs. 4968.Find the share of Shilu in the profit?

मोहन और शीलू ने क्रमशः 6,000 रुपये और 8,000 रुपये के निवेश के साथ एक व्यवसाय शुरू किया। पाँच महीने बाद, मोहन ने अपनी पूंजी का एक-तिहाई हिस्सा निकाल लिया।

फिर, तीन महीने बाद, शीलू ने अपनी पूंजी का आधा हिस्सा निकाल लिया जबकि एक वर्ष के अंत में, उन्होंने 4968 **रुपये का लाभ कमाया। लाभ में शीलू का हिस्सा ज्ञात कीजिए**?

(a)2662

(b)2660

(c)2860

(d)2880

(e) None of these

(17) A vessel of 126 litres is filled with milk and water. 80% of milk and 45% of water is taken out of the vessel. It is found that the vessel is 65% empty. Find the initial quantity of milk.

126 **लीटर का एक बर्तन दूध और पानी से भरा हुआ है। बर्तन से** 80% **दूध और** 45% **पानी निकाल लिया जाता है। यह पाया जाता है कि बर्तन** 65% **खाली है। दूध की आरंभिक मात्रा ज्ञात कीजिए।**

(a)79

(b)75

(c)77

(d)72

(e) None of these

(18) A motorboat started travelling from place K to G at a distance of 80km. After travelling 60% of the total distance, the engine develops some sort of issues due to which the speed becomes 2/5th of the initial

speed. As a result, the boat reached place G 3 hours late. What is the original speed of the motorboat ?

एक मोटरबोट स्थान K **से स्थान** G **तक** 80 **किमी की दूरी तय करने लगी। कुल दूरी का** 60% **तय करने के बाद, इंजन में कुछ समस्या आ गई, जिसके कारण गति प्रारंभिक गति की** 2/5 **हो गई। परिणामस्वरूप, नाव स्थान** G **पर** 3 **घंटे देरी से पहुँची।मोटरबोट की मूल गति क्या है**?

(a)35 kmph

(b)16 kmph

(c)40 kmph

(d)50 kmph

(e) None of these

(19) A train, travelling at 72 kmph, crosses a platform in 31 seconds and a man standing on the same platform in 16 seconds. Find the length of the platform?

72 **किमी प्रति घंटे की गति से चलने वाली एक रेलगाड़ी एक प्लेटफॉर्म को** 31 **सेकंड में पार करती है और उसी प्लेटफॉर्म पर खड़े एक व्यक्ति को** 16 **सेकंड में पार करती है। प्लेटफॉर्म की लंबाई ज्ञात कीजिए**?

(a)120 m

(b)250 m

(c)300 m

(d)220 m

(e) None of these

(20) A certain sum of money amounts to Rs 1330 in 2 years and to Rs1995 in 5(1/2) years at a certain rate of simple interest, what is the rate of interest per annum?

एक निश्चित धनराशि साधारण ब्याज की एक निश्चित दर पर 2 **वर्षों में** 1330 **रुपये और** 5(1/2) **वर्षों में** 1995 **रुपये हो जाती है, प्रति वर्ष ब्याज दर क्या है**?

(a)50%

(b)20%

(c)60%

(d)30%

(e) None of these

Answers:

(1)a

(2)d

(3)b

(4)a

(5)e

(6)a

(7)c

(8)a

(9)c

(10)d

(11)a

(12)c

(13)a

(14)c

(15)b

(16)d

(17)d

(18)b

(19)c

(20)b

Solutions:

(1) Box price = 100x

55% of price = 247.5

= 100x = 247.5 × 100 / 55

=100x = 450

60% profit = 450 × 160 / 100 = 720

2) Mobile Watch

Old =. 4x 8x

New = 5x 8x + 2000

5x/8x + 2000 = 5 / 9

45 x = 40 x + 10000

x = 2000

Mobile = 4 × 2000 = 8000 Ans

3) Let the age of fifth oldest girl = b

$9 \times 32 = (5 \times 28) + (5 \times 36)$

$288 = 140 + 180 = 270$

$G = 320 - 288 = 32$

4) Broken part = 3 : 5 : 6

Total weight = 14

Cost of initial diamond = $14 \times 14 = 196$ units

Cost of Broken diamond =

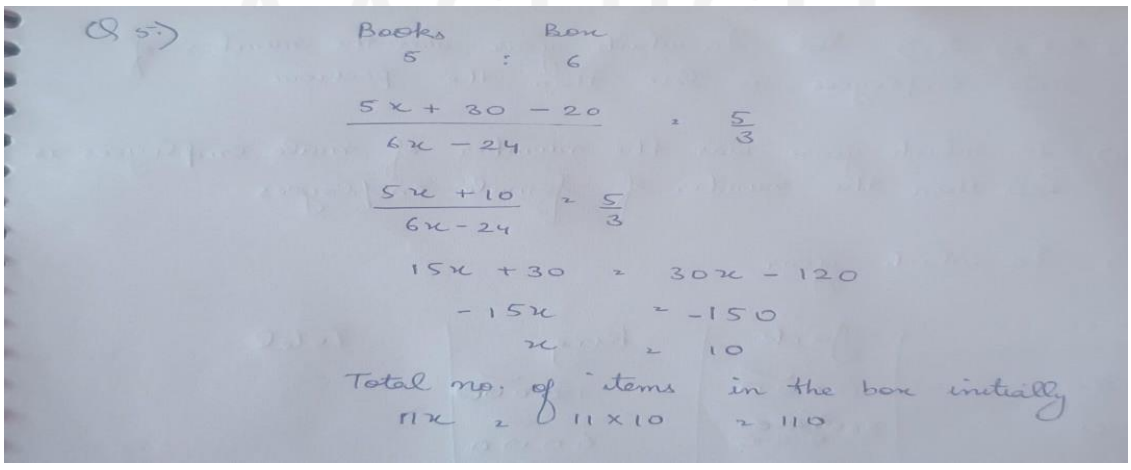
$3^2 + 5^2 + 6^2 = 70$ units

196 - 70 = 6930

1 unit = 55

Initial cost = $196 \times 55 = 10780$

5).



6) Fixed possibility of 19

Total case = $8 \times 7 \times 6 = 336$

7) Total days in May = 31

$420 \times 31 = 420 \times 24 + 210 \times d$

$420 \times 7 = 260\ d$

$d = 420 \times 7 / 260 = 14$

8)

$8 \rightarrow 9$

$6 \rightarrow 7$

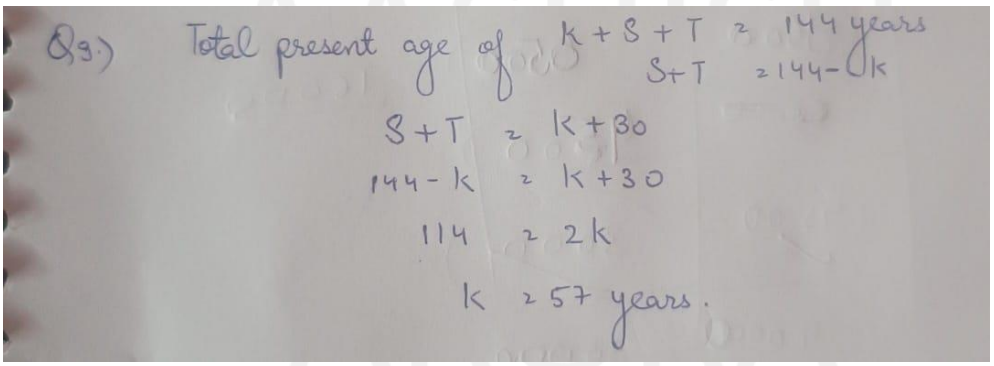
$4 \rightarrow 5$

$192 \rightarrow 315$

192 units = 1536

1 unit = $8 \times (315 - 192)$

= 984

9) 

10) 14.28% = 1/7

15.38% = 2/13

16.66% = 1/6

5 6

7 6

13 15

6 7

13 18

Profit % = 5/13 × 100

= 38.46%

11) Accidents happen after 56 km

18 − 16 = 56

4u = 56

We have to find data about 18 men:

4 × 3 = 56 × 13

Total Distance = 104 + 144 = 248 km

12) Volume of cylinder = $\pi r^2 h$

Height = 1 → 3

Radius = 4 → 1

Radius = 4 → 1

% change = (13 × 100) / 16 = 81.25%

13) Total possible outcomes = 6 × 6 = 36

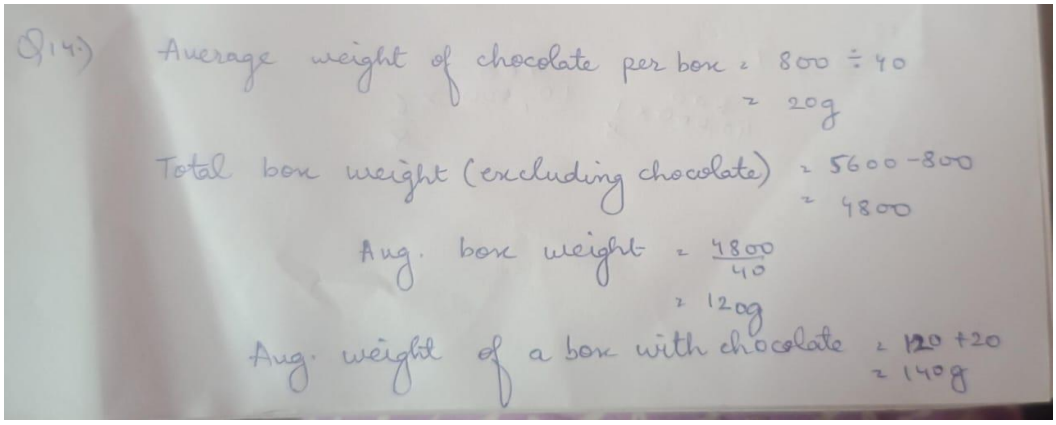
Even outcomes = 2, 4, 6

Odd number = 1, 3, 5

Odd product = 3 × 3 = 9

Thus, outcomes where the product is even = 36 − 9 = 27

Now, 27 / 36 = 3 / 4

14) 

15) 4M + 5W/9M + 15W = 2/1 time ratio

4M + 5W/ 9M + 15W = 1/2 → Efficiency ratio

8M + 10W = 9M + 15W

M = 5W

Man pays = 5 × 34 = 170

16) Ratio of profit of Mohan and Shilu

(60000 × 5 + 4000 × 7) : (80000 × 8 + 40000 × 4)

= 58000 : 80000

= 29 : 40 = 69

Now Shilu's profit = (40 / 69) × 4968 = 2880

17). Milk. Water

80. 45

65

20 15

Ratio of milk to water = 4:3

Quantity of milk = 126 × (4/7) = 72

18) Distance between place K and G = 80 km

Initial speed of motorboat = x

(60% of 80/ x) + (40% of 80 / (x + 2/5x) - 80/x = 3

48/x + 80 /x - 80/x = 3

48/x = 3

x = 16

So, initial speed of motorboat = 16 kmph

19)Speed of train = 72 × 5/18 = 20 m/s

Train takes 16 sec → 16 × 20 = 320 m

Length of the full platform = 31 × 20 – 320 = 300m

20) Interest paid in (5×1/2 – 2) = 7/2 years

1995 – 1330 = 665

So, interest in 1 year = 665 × 2 / 7 = 190

So, interest in 2 year = 2 × 190 = 380

Principal = 1330 – 380 = 950

Rate = (380 × 100) / (2 × 950) = 20%

3. Quadratic Equations

In each of the following questions, there are two equations. You have to solve both equations and mark the correct answer.

(a) $x > y$

(b) $x < y$

(c) $x = y$ or the relationship cannot be established

(d) $x \geq y$

(e) $x \leq y$

1.) I. $x^2 - 31x + 240 = 0$

II. $y^2 - 34y + 288 = 0$

2.) I. $3x^2 - 30x + 72 = 0$

II. $4y^2 + 12y - 72 = 0$

3.) I. $x^2 - 14x + 48 = 0$

II. $y^2 - 17y + 72 = 0$

4.) I. $x^2 + 9x - 70 = 0$

II. $y^2 - 22y + 96 = 0$

5.) I. $6x^2 + 10x - 84 = 0$

II. $7y^2 - 55y + 102 = 0$

6.) I. $x^2 + 12x - 133 = 0$

II. $y^2 - 23y + 120 = 0$

7.) I. $x^2 - 7x + 12 = 0$

II. $y^2 - 12y + 36 = 0$

8.) I. $5x^2 - 40x + 80 = 0$

II. $6y^2 + 11y - 112 = 0$

9.) I. $x^2 - 20x + 91 = 0$

II. $y^2 - 28y + 196 = 0$

10.) I. $x^2 - 35x + 306 = 0$

II. $y^2 - 32y + 255 = 0$

11.) I. $3x^2 - 29x + 66 = 0$

II. $5y^2 - 44y + 96 = 0$

12.) I. $x^2 - 48x + 576 = 0$

II. $y^2 - 44y + 484 = 0$

13.) I. $x^2 + 9x - 112 = 0$

II. $y^2 - 20y + 96 = 0$

14.) I. $9x^2 - 59x + 96 = 0$

II. $12y^2 - 114y + 102 = 0$

15.) I. $x^2 - 37x + 342 = 0$

II. $y^2 - 31y + 240 = 0$

16.) I. $x^2 + 10x - 144 = 0$

II. $y^2 + 11y + 28 = 0$

17) I. $9x^2 - 31x + 26 = 0$

II. $2y^2 - 11y + 15 = 0$

18.) I. $x^2 = 1024$

II. $y^2 - 63y + 1023 = 0$

19.) I. $x^2 - 26x + 153 = 0$

II. $y^2 - 16y + 64 = 0$

20.) I. $x^2 - 18x + 21 = - 8x$

II. $y^2 + 6y - 32 = -5$

Answers:

1. E
2. A
3. E
4. B
5. E
6. A
7. B
8. A
9. B
10. D
11. C
12. A
13. B
14. C
15. A
16. C
17. B
18. C
19. A
20. D

Answers:

(1) x = 15,16

y = 18,16

(2) x = 6,4

y = 3,-6

(3) x = 8,6

y = 9,8

(4) x = 5,-14

y = 16,6

(5) x = 3,-28/6

y = 34/7,3

(6) x = 7,-19

y = 15,8

(7) x = 4,3

y = 6,6

(8) x= 4,4

y= 21/6,-32/6

(9) x = 13,7

y = 14,14

(10) x = 18,17

y = 17,15

(11) x = 6,11/3

y = 4,24/5

(12) x = 24,24

y = 22,22

(13) x= 7,-16

y= 12,8

(14) x= 32/9,3

y= 8.5 , 1

(15) x= 19,18

y= 15,16

(16) x = 8,-18

y = -7,-4

(17) x = 13/9,2

y = 3,5/2

(18) x = 32,-32

y = 32,31

(19) x = 17,9

y = 8,8

(20) x= 7,3

y = 3,-9

4. WRONG NUMBER SERIES

1. 594,714,826,926,1018,1094
   a.594
   b.714
   c.826
   d.926
   e.1018
2. 369,389,422,480,573,711
   a.369
   b.389
   c.422
   d.573
   e.711
3. 663,699,849,1167,1743,2643
   a.663
   b.699
   c.849
   d.1743
   e.2643
4. 12,4,10,6,20,40
   a.4
   b.10
   c.6
   d.20
   e.40
5. 714,739,964,1589,2814,4849
   a.714
   b.964
   c.1589
   d.2814
   e.4849
6. 713,917,1032,1098,1109,1113
   a.713

b.917
c.1032
d.1098
e.1113

7. 256,512,192,480,1680,7560
   a.256
   b.512
   c.192
   d.1680
   e.7560
8. 67,81,109,165,267,501
   a.67
   b.81
   c.109
   d.165
   e.267
9. 193,265,378,538,737,993
   a.193
   b.378
   c.538
   d.737
   e.993
10. 139,161.5,189.7,222.6,260.2,302.5
    a.139
    b.161.5
    c.189.7
    d.260.2
    e.302.5
11. 676,695,715,726,745,761
    a.676
    b.695
    c.715
    d.726
    e.761
12. 137,245,387,557,765,1001
    a.137

b.387
c.557
d.765
e.1001

13. 45,135,30,120,24,144
    a.45
    b.135
    c.120
    d.24
    e.144
14. 143,182,237,319,433,598
    a.143
    b.182
    c.237
    d.319
    e.598
15. 248,276,233,307,188,367
    a.276
    b.233
    c.307
    d.188
    e.367
16. 539,650,428,761,319,872
    a.539
    b.428
    c.761
    d.319
    e.872
17. 49,60,97,128,273,334
    a.49
    b.60
    c.97
    d.128
    e.334
18. 182,351,649,1001,1530,2371
    a.182

b.649
c.1001
d.1530
e.2371

19. 2496,3576,4116,4286,4341,4350
    a.2496
    b.4116
    c.4286
    d.4341
    e.4350
20. 619,641,597,685,509,859
    a.619
    b.641
    c.685
    d.509
    e.859

SOLUTIONS:-

1. (d)
2. (a)
3. (c)
4. (b)
5. (e)
6. (d)
7. (b)
8. (e)
9. (c)
10. (a)
11. (d)
12. (c)
13. (b)
14. (d)
15. (a)
16. (d)
17. (a)

18.(b)

19.(c)

20.(e)

1) +(15*8)
   +(16*7)
   +(17*6)
   +(18*5)
   +(19*4)
2) Double difference
   +18
   +33
   +58
   +93
   +138
3) $+6^2, +12^2, +18^2, +24^2, +30^2$
4) *0.5)-2
   *1)+4
   *1.5)-6
   *2)+8
   *2.5)-10
5) $+5^2, +15^2, +25^2, +35^2, +45^2$
6) $+(6^3-12), +(5^3-10), +(4^3-8), +(3^3-6), +(2^3-4)$
7) *0.5
   *1.5
   *2.5
   *3.5
   *4.5
8) +14 +28 +56 +112 +224
   *2 *2 *2 *2
9) Double difference of prime
   +72
   +113

+156
+203
+256

10) Double difference

+23.5
+28.2
+32.9
+37.6
+42.3

11) Digit sum

676+(6+7+6)
695+(6+9+5)
715+(7+1+5)
728+(7+2+8)
745+(7+4+5)

12) $(12^2 - 7)$

$(16^2 - 11)$
$(20^2 - 13)$
$(24^2 - 17)$
$(28^2 - 19)$
$(32^2 - 23)$

13) *2

/3
*4
/5
*6

14) Double difference of square

+39
+55
+80
+116
+165

15) Double difference

+29
-44
+74

-119
+179

16) +111
-222
+333
-444
+555

17) $+(2^2+5), +(3^3+10), +(4^2+15), +(5^3+20), +(6^2+25)$

18) $+13^2, +17^2, +19^2, +23^2, +29^2$

19) +1080 +540 +180 +45 +9
/2 /3 /4 /5

20) +22
-44
+88
-176
+352

5. MISSING NUMBER SERIES

(1) ?, 1051, 539, 755, 691, 699

(a)51

(b)55

(c)58

(d)56

(e) None of these

(2)73, ?, 123, 151, 181, 213

(a)97

(b)90

(c)96

(d)99

(e) None of these

(3) 20, 75.5, ?, 2233.5, 15630

(a)325

(b)364

(c)373

(d)350

(e) None of these

(4) 29, 32, 41, ?, 149, 392

(a)69

(b)66

(c)61

(d)68

(e) None of these

(5) 15, 184, 305, ?, 435, 460

(a)380

(b)344

(c)386

(d)385

(e) None of these

(6) 33, 73, 131, 207, ?, 413

(a)301

(b)340

(c)383

(d)335

(e) None of these

(7) 13, 47, 66, 78, 87, ?

(a)40

(b)38

(c)95

(d)55

(e) None of these

(8) 42, 117, 242, 417, 642, ?

(a)910

(b)919

(c)918

(d)917

(e) None of these

(9) 12600, 12000, ?, 10875, 10350, 9850

(a)11435

(b)11425

(c)11430

(d)11445

(e) None of these

(10)34, 43, 61, 97, ?, 259

(a)160

(b)180

(c)170

(d)190

(e) None of these

(11) ?, 364, 346, 319, 283, 238

(a)325

(b)315

(c)373

(d)320

(e) None of these

(12) 23, 13, ?, 28, 96, 462

(a)14

(b)25

(c)10

(d)15

(e) None of these

(13)2, ?, 325, 3580, 39384, 433226

(a)25

(b)30

(c)29

(d)26

(e) None of these

(14) 33, 59, ?, 139, 189, 243

(a)94

(b)96

(c)90

(d)95

(e) None of these

(15) 776, ?, 617, 526, 430, 331

(a)704

(b)755

(c)701

(d)720

(e) None of these

(16) 80, 177.5, 268.5, ?, 431, 502.5

(a)353

(b)350

(c)352

(d)354

(e) None of these

(17) 49920, 24960, 6240, 1040, ?, 13

(a)142

(b)140

(c)162

(d)130

(e) None of these

(18) 3, 6, ?, 192, 3072, 98304

(a)28

(b)24

(c)30

(d)26

(e) None of these

(19) 18, 14, 19, 33.5, ?, 185

(a)72

(b)74

(c)68

(d)73

(e) None of these

(20) 4, ?, 43, 138, 430, 1315

(a)18

(b)16

(c)13

(d)10

(e) None of these

Answers:

(1)a

(2)a

(3)c

(4)d

(5)c

(6)a

(7)c

(8)d

(9)b

(10)a

(11)c

(12)a

(13)c

(14)d

(15)c

(16) a

(17)d

(18)b

(19)a

(20)c

Solutions:

(1) $+10^3 - 8^3 + 6^3 - 4^3 + 2^3$

(2) +24, +26, +28, +30, +32

(3) ×4 - 4.5, ×5 - 4.5, ×6 - 4.5, ×7 - 4.5

(4) $+3^1, +3^2, +3^3, +3^4, +3^5$

(5) $+13^2, +11^2, +9^2, +7^2, +5^2$

(6) +40, +58, +76, +94, +112

+18, +18, +18, +18

(7) $+2^5+2, +2^4+3, +2^3+4, +2^2+5, +2^1+6$

(8)+75, +125, +175, +225, +275

(9) -600, -575, -550, -525, -500

(10)+9, +18, +36, +63, +99

+9, +18, +27, +36

(11)-9, -18, -27, -36, -45

+9, +9, +9, +9

(12)×1 - 10, ×2 - 12, ×3 - 14, ×4 - 16, ×5 - 18

(13)×11 + 7, ×11 + 6, ×11 + 5, ×11 + 4, ×11 + 3, ×11 + 2

(14)+13×2, +12×3, +11×4, +10×5, +9×6

(15)-15×5, -14×6, -13×7, -12×8, -11×9

(16)+15×6.5, +14×6.5, +13×6.5, +12×6.5, +11×6.5

(17)÷2, ÷4, ÷6, ÷8, ÷10

(18) ×2, ×4, ×8, ×16, ×32

(19)×0.5 + 5, ×1 + 5, ×1.5 + 5, ×2 + 5, ×2.5 + 5

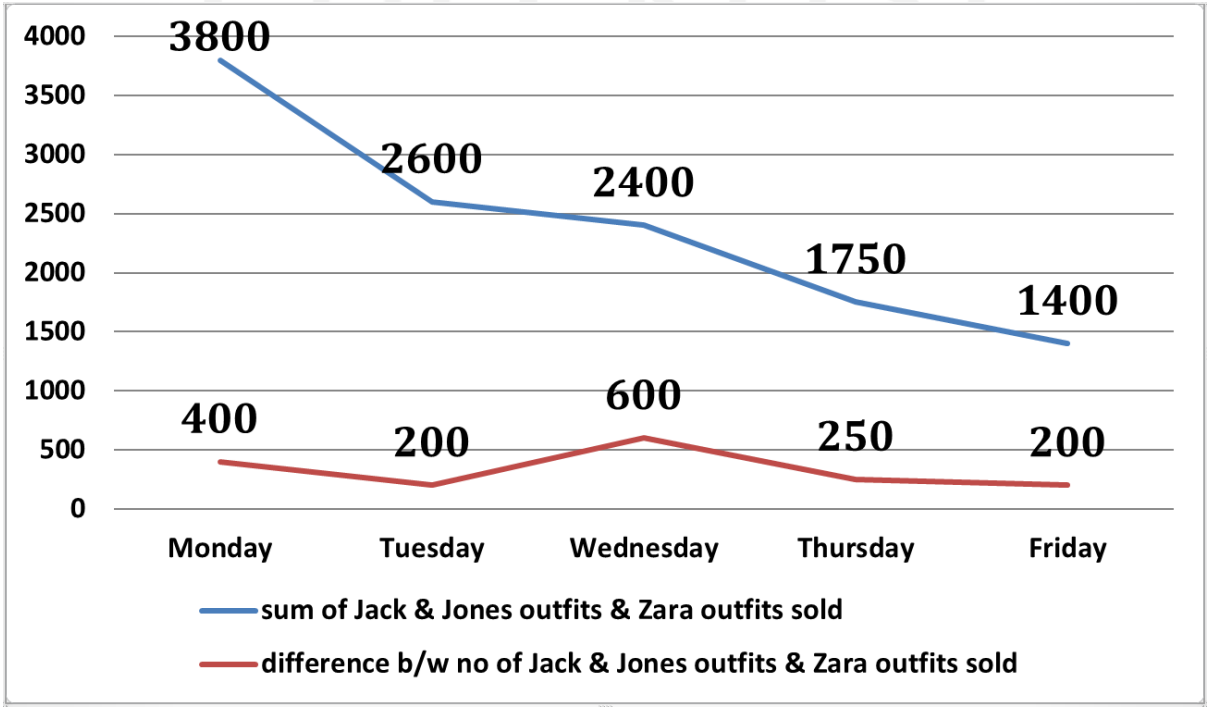
(20)×3 + 1^2, ×3 + 2^2, ×3 + 3^2, ×3 + 4^2, ×3 + 5^2

6. DATA INTERPRETATION

SET 1. The line chart shows the data about the number of Jack & Jones outfits & Zara outfits sold on five different days. Read the data and answer the following questions.

Note:- Jack and Jones sold all days is more than Zara outfits sold all days.

लाइन चार्ट में पांच अलग-अलग दिनों में बेचे गए **Jack & Jones** और **Zara** ब्रांड के कपड़ों की संख्या को दर्शाया गया है। डेटा पढ़िए और नीचे दिए गए प्रश्नों के उत्तर दीजिए।



1. The number of Jack & Jones outfits sold on Wednesday is what percent of total number of outfits sold on Wednesday?
   बुधवार को बेचे गए Jack & Jones के आउटफिट्स की संख्या, बुधवार को बेचे गए कुल आउटफिट्स की संख्या का कितने प्रतिशत है?
   (A)62.5%
   (B)31.25%
   (C)66.66%
   (D)12.12%
   (E)None of these

2. Find the difference between average number of Jack & Jones outfits sold on Wednesday, Thursday & Friday and average number of Zara outfits sold on Wednesday, Thursday & Friday.
बुधवार, गुरुवार और शुक्रवार को बेचे गए Jack & Jones के आउटफिट्स की औसत संख्या और बुधवार, गुरुवार और शुक्रवार को बेचे गए Zara के आउटफिट्स की औसत संख्या के बीच क्या अंतर है?
(A)300
(B)350
(C)390
(D)400
(E)None of these

3. Find the ratio between number of Jack & Jones outfits sold on Friday and number of Zara outfits sold on Tuesday.
शुक्रवार को बेचे गए Jack & Jones के आउटफिट्स और मंगलवार को बेचे गए Zara के आउटफिट्स के बीच अनुपात (ratio) क्या है?
(A)2 : 3
(B)7 : 3
(C)9 : 7
(D)9 : 4
(E)None of these

4. If the number of Zara outfits sold on Wednesday is m% of the number of Jack & Jones outfits sold on Wednesday and the number of Zara outfits sold on Thursday is n% of the number of Zara outfits sold on Friday, then find the sum of (m+5)% of the number of Zara outfits sold on Tuesday and (n-5)% of the number of Jack & Jones outfits sold on Tuesday.
यदि बुधवार को बेचे गए Zara के आउटफिट्स की संख्या, Jack & Jones के बुधवार को बेचे गए आउटफिट्स की संख्या का **m%** है और गुरुवार को बेचे गए Zara के आउटफिट्स की संख्या, शुक्रवार को बेचे गए Zara आउटफिट्स की संख्या का **n%** है, तो (m + 5)% × मंगलवार को बेचे गए Zara के आउटफिट्स की संख्या और (n - 5)% × मंगलवार को बेचे गए Jack & Jones के आउटफिट्स की संख्या का योग कितना होगा?
(A)2850
(B)2390
(C)2150
(D)2460
(E)None of these

5. What is the Sum between total number of Zara outfits sold on all five days and total number of Jack & Jones outfits sold on all five days?
   पांचों दिनों में बेचे गए कुल Zara आउटफिट्स और कुल Jack & Jones आउटफिट्स की संख्या में कितना sum है?
   (A)11950
   (B)13840
   (C)14760
   (D)19210
   (E)None of these.

Solutions

from line graph : for Monday : sum of Jack & Jones outfits & Zara outfits sold = 3800 and difference b/w no of Jack & Jones outfits & Zara outfits sold = 400 so by adding & divide by 2, we get number of Jack & Jones outfits sold = 4200/2 = 2100 and number of Zara outfits sold = 3800 – 2100 = 1700. So we get,

Day	Jack & Jones outfits	Zara outfits	Total
Monday	2100	1700	**3800**
Tuesday	1400	1200	**2600**
Wednesday	1500	900	**2400**
Thursday	1000	750	**1750**
Friday	800	600	**1400**

1. (A)62.5%
2. (B)350
3. (A)2 : 3
4. (D)2460 {m% = 900/1500 *100 = 60% and n% = 750/600 *100 = 125% so required answer = 65% of 1200 + 120% of 1400 = 2460}
5. (A)11950

SET 2. The table graph shows the number of employees in Google and number of male & female employees in four different years. Read the data and answer the following questions.

तालिका ग्राफ (Table Graph) में **Google** कंपनी में चार अलग-अलग वर्षों में कर्मचारियों की संख्या और पुरुष एवं महिला कर्मचारियों दर्शाया गया है। डेटा को पढ़ें और नीचे दिए गए प्रश्नों के उत्तर दें।

Year	number of male employees	number of female employees
2001	14000	10000
2002	18000	12000
2003	16000	20000
2004	28000	25000

1. In which year was the number of male employees is less as compared to previous year and by what % the number of female employees in that year is increased as compared to the year 2001 ?
   किस वर्ष में पुरुष कर्मचारियों की संख्या पिछले वर्ष की तुलना में कम है और उस वर्ष में महिला कर्मचारियों की संख्या में वर्ष **2001** की तुलना में क्या % बढ़ा है**?**

   (A)200%
   (B)120%
   (C)150%
   (D)100%
   (E)None of these

2. If the number of male employees & female employees in 2005 is 14.28% more & 20% less than the number of male employees & female employees in 2004, then find the ratio between the number of female employees in 2002 and number of female employees in 2005.
   यदि 2005 में पुरुष कर्मचारियों की संख्या 2004 की तुलना में 14.28% अधिक है और महिला कर्मचारियों की संख्या 20% कम है, तो 2002 में महिला कर्मचारियों की संख्या और 2005 में महिला कर्मचारियों की संख्या के बीच अनुपात (ratio) क्या है?
   (A)3 : 5
   (B)5 : 9
   (C)5 : 4
   (D)8 : 5

(E)None of these

3. Find the difference between the number of male employees in 2001 & 2003 together and the number of female employees in 2003 & 2004 together.
2001 और 2003 में पुरुष कर्मचारियों की कुल संख्या और 2003 और 2004 में महिला कर्मचारियों की कुल संख्या के बीच कितना अंतर है?
(A)12000
(B)15000
(C)18000
(D)20000
(E)None of these

4. Find the average number of female employees in all four years.
चारों वर्षों में महिला कर्मचारियों की औसत संख्या कितनी है?
(A)16750
(B)12520
(C)17340
(D)19230
(E)None of these

5. The year in which the number of female employees is least, total number of employees in that year is how much more or less than total number of employees in 2003?
जिस वर्ष महिला कर्मचारियों की संख्या सबसे कम है, उस वर्ष कुल कर्मचारियों की संख्या, वर्ष 2003 के कुल कर्मचारियों की तुलना में कितनी अधिक या कम है?
(A)10000 less
(B)15000 more
(C)12000 less
(D)20000 more
(E)None of these

Solutions

Year	male employees	female employees	Total
2001	14000	10000	**24000**
2002	18000	12000	**30000**
2003	16000	20000	**36000**
2004	28000	25000	**53000**

1. (D)100% { year, in which number of male employees is less as compared to previous year is 2003 so required answer = (20000-10000)/10000 *100 = 100%}
2. (A)3 : 5 { number of female employees in 2005 = 4/5 of 25000 = 20000 so required answer = 12000 : 20000 = 3:5}
3. (B)15000
4. (A)16750
5. (C)12000 less { the year in which the number of female employees is least is 2001 so required answer = 36000 – 24000 = 12000 less}

SET 3. The data is about the number of two types of Soda bottles sold on five different days by a shop. The ratio of total number of Jack Daniels bottles to Kingfisher bottles is 4: 3 respectively. 33.33% of total number of Kingfisher bottles are sold on Monday. 20% of number of Jack Daniels bottles are sold on Tuesday. There are total 70000 soda bottles of Jack Daniels and Kingfisher sold. Jack Daniels bottles sold on Friday are 3500 less than that on Tuesday. The ratio of number of Jack Daniels bottles sold to number of Kingfisher bottles sold on Tuesday is 4: 3 respectively and total number of soda bottles are sold on Wednesday is 16000. The number of Kingfisher bottles sold on Friday is 33.33% less than number of Jack Daniels bottles sold on Friday. The number of Jack Daniels bottles sold on Monday is 6/5th of the number of Kingfisher bottles sold on Monday. The number of Kingfisher bottles sold on Thursday is 75% of number of Kingfisher bottles sold on Tuesday.

यह डेटा एक दुकान द्वारा पांच अलग-अलग दिनों में बेची गई दो प्रकार की सोडा बोतलों (Jack Daniels और Kingfisher) की संख्या से संबंधित है। Jack Daniels और Kingfisher बोतलों की कुल संख्या का अनुपात क्रमशः **4:3** है। **33.33%** (यानि 1/3) कुल Kingfisher बोतलों की बिक्री सोमवार को हुई है। Jack Daniels बोतलों की **20%** बिक्री मंगलवार को हुई है। Jack Daniels और Kingfisher की कुल **70,000** बोतलें बेची गईं। शुक्रवार को बेची गई Jack Daniels बोतलें, मंगलवार को बेची गई Jack Daniels बोतलों से **3500 कम** हैं। मंगलवार को Jack Daniels और Kingfisher बोतलों की बिक्री का अनुपात **4:3** है। बुधवार को कुल सोडा बोतलों की बिक्री **16,000** है। शुक्रवार को बेची गई Kingfisher बोतलें, शुक्रवार को बेची गई Jack Daniels बोतलों से **33.33% (यानि 1/3)** कम हैं। सोमवार को बेची गई Jack Daniels बोतलें, सोमवार को बेची गई Kingfisher बोतलों की **6/5 गुना** हैं। गुरुवार को बेची गई Kingfisher बोतलें, मंगलवार को बेची गई Kingfisher बोतलों की **75%** हैं।

1. The number of Jack Daniels bottles sold on Tuesday is what percent of total number of soda bottles sold on Tuesday?
   मंगलवार को बेची गई Jack Daniels बोतलों की संख्या, मंगलवार को बेची गई कुल सोडा बोतलों की कितने प्रतिशत है?
   (A)33.33%
   (B)67.82%
   (C)77.77%
   (D)57.14%
   (E)None of these

2. What is the average number of Jack Daniels bottles sold on Tuesday, Wednesday, Thursday & Friday?

मंगलवार, बुधवार, गुरुवार और शुक्रवार को बेची गई Jack Daniels बोतलों की औसत संख्या ज्ञात कीजिए।
(A)3000
(B)5000
(C)7000
(D)9000
(E)None of these

3. Find the ratio between number of Jack Daniels bottles sold on Monday and number of Kingfisher bottles sold on Friday.
सोमवार को बेची गई Jack Daniels बोतलों और शुक्रवार को बेची गई Kingfisher बोतलों के बीच अनुपात (ratio) क्या है?
(A)2 : 1
(B)4 : 1
(C)7 : 9
(D)3 : 2
(E)None of these

4. The number of Kingfisher bottles sold on Tuesday is what percent more or less than number of Kingfisher bottles sold on Monday?
मंगलवार को बेची गई Kingfisher बोतलों की संख्या, सोमवार को बेची गई Kingfisher बोतलों की तुलना में कितने प्रतिशत अधिक या कम है?
(A)45% more
(B)35% less
(C)60% more
(D)40% less
(E)None of these

5. The total number of soda bottles sold on Monday is how much more or less than the total number of soda bottles sold on Thursday?
सोमवार को बेची गई कुल सोडा बोतलों की संख्या, गुरुवार को बेची गई कुल सोडा बोतलों की तुलना में कितनी अधिक या कम है?
(A)10900 less
(B)12400 less
(C)11500 more

(D)14800 less
(E)None of these

Solutions

	Jack Daniels bottles	Kingfisher bottles	Total
Monday	12000	10000	**22000**
Tuesday	8000	6000	**14000**
Wednesday	9500	6500	**16000**
Thursday	6000	4500	**10500**
Friday	4500	3000	**7500**
	40000	**30000**	**70000**

1. (D)57.14%
2. (C)7000
3. (B)4 : 1
4. (D)40% less
5. (C)11500 more