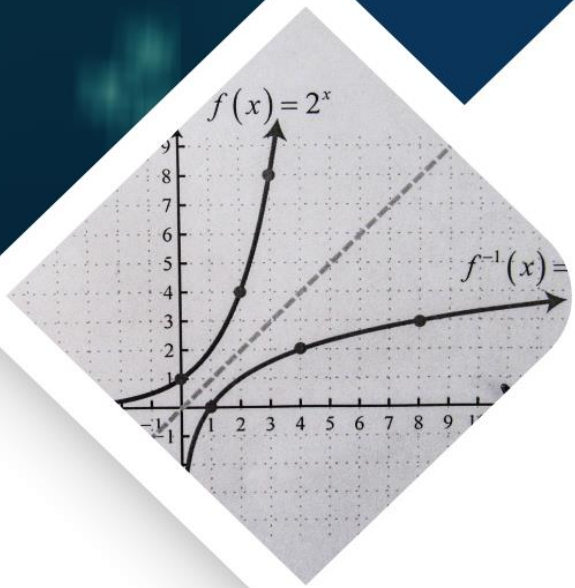
FOR SBI IBPS PO PRE

# 2025

34

# QUANT CHECKLIST

Practice Module by Aashish Arora

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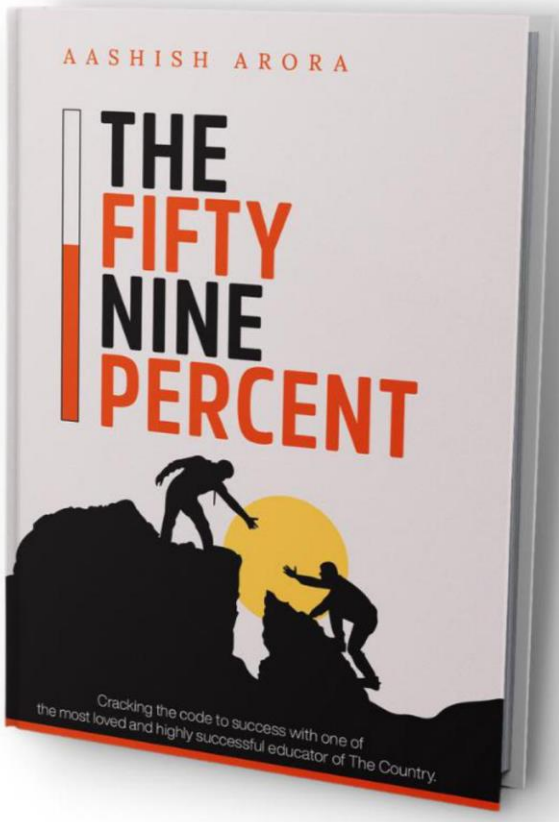
# THE FIFTY NINE PERCENT

## By Aashish Arora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# 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) 9/17× 408 - 5/19 × 817 + 244 = ? % of 875

(a) 46

(b) 32

(c) 29

(d) 28

(e) None of these

(2) 55% of 1600 - $28^2$ = ? × 12

(a) 5

(b) 6

(c) 8

(d) 7

(e) None of these

(3) 5/17 of (248 + 845 + 335) = ? × 7

(a) 32

(b) 60

(c) 48

(d) 56

(e) None of these

(4) (2400 - 240 - 24) ÷ 24 = ? + $\sqrt[3]{97336}$

(a) 43

(b) 57

(c) 23

(d) 32

(e) None of these

(5) (19 × 14) + (18 × 52) + (36 × 12) - (14 × 12) = ?

(a) 1246

(b) 1118

(c) 1466

(d) 1088

(e) None of these

(6) 48% of 900 + (48 × 17) = ?% of 1100 + 148

(a) 100

(b) 124

(c) 131

(d) 148

(e) None of these

(7) ($?^2$ + 18) × 5 + 1575 ÷ 15 = 40% of 960 + 216

(a) 8

(b) 9

(c) 7

(d) 6

(e) None of these

(8) $(484 + \sqrt{2304}) \times 3 - 1004 = ? + \sqrt[3]{474552}$

(a) 762

(b) 528

(c) 514

(d) 248

(e) None of these

(9) 3/12 of 5784 + (500 + 280) = ? + 50% of 624

(a) 1914

(b) 1368

(c) 1896

(d) 1682

(e) None of these

(10) 40% of 60% of 1200 + 160 = (? ÷ 8) × 128

(a) 24

(b) 26

(c) 22

(d) 28

(e) None of these

(11) 13.33% of 1125 + 30.76% of 1105 - 26.66% of 525 = ?

(a) 325

(b) 285

(c) 350

(d) 420

(e) None of these

(12) 58 × 21 + 48 × 56 ÷ 14 = ? × 12

(a) 107.5

(b) 117.5

(c) 104.5

(d) 108.5

(e) None of these

(13) (√2304 × $36^2$) ÷ 192 = ? of {(75% of 54) - 10.5}

(a) 15.4

(b) 10.2

(c) 15.6

(d) 10.8

(e) None of these

(14) 2870 + 5842 + 9009 - 7024 - 1004 = ? × 3

(a) 9471

(b) 6421

(c) 3231

(d) 8421

(e) None of these

(15) 80% of 8425 + 500% of 42 = ? + 18% of 2800

(a) 7628

(b) 6446

(c) 4256

(d) 5624

(e) None of these

(16) 5(1/12) + 8(3/4) + 7(4/3) - 3(5/6) - 4(7/12) + 5(1/6) = ?

(a) 18(11/12)

(b) 13(17/12)

(c) 14(13/12)

(d) 17(15/12)

(e) None of these

(17) {(524 + 816) ÷ 4} + {(784 + 106) ÷ 5} - {(424 + 724) ÷ 4} = ?

(a) 191

(b) 226

(c) 162

(d) 234

(e) None of these

(18)$(1296)^2 \times (216) \div 36 = 6^*$

(a) 7

(b) 6

(c) 9

(d) 8

(e) None of these

(19) 800% × $\sqrt[3]{5832}$ + 750% of $\sqrt[3]{15625}$ = ? + 16.5 × 3

(a) 276

(b) 282

(c) 259

(d) 246

(e) None of these

(20)(804 × 56/16 × 14) - (784 × 624/16 × 48) + (856 × 684/16 × 38) = ?

(a) 697

(b) 585

(c) 425

(d) 527

(e) None of these

Answers:

(1) D

(2) C

(3) B

(4) A

(5) C

(6) A

(7) B

(8) C

(9) A

(10) D

(11) C

(12) B

(13) D

(14) C

(15) B

(16) A

(17) B

(18) C

(19) B

(20) D

Solutions:

(1) 9/17× 408 - 5/19 × 817 + 244 = ? % of 875

216 - 215 + 244 = ?% × 875

245 × 100/875 = 28

(2) 55% of 1600 - $28^2$ = ? × 12

880 - 784 = 12x

96/12 = 8

(3) 5/17 of (248 + 845 + 335) = ? × 7

5/17 × 1428 = 7x

420/7 = 60

(4) (2400 - 240 - 24) ÷ 24 = ? + $\sqrt[3]{}$97336

2136 / 24 = ? + 46

89 - 46 = 43

(5) (19 × 14) + (18 × 52) + (36 × 12) - (14 × 12) = ?

266 + 936 + 432 - 168 = ?

= 1466

(6) 48% of 900 + (48 × 17) = ?% of 1100 + 148

432 + 816 = ?% × 1100 + 148

1248 - 148 = 11x

1100/11 = 100

(7) (?² + 18) × 5 + 1575 ÷ 15 = 40% of 960 + 216

(?² + 18) × 5 + 105 = 384 + 216

(?² + 18) × 5 = 600 - 105

$(?^2 + 18) = 495/5$

$(?^2 + 18) = 99$

$?^2 = 81$

$? = 9$

(8) $(484 + \sqrt{2304}) \times 3 - 1004 = ? + \sqrt[3]{474552}$

$(484 + 48) \times 3 - 1004 = ? + 78$

$532 \times 3 - 1004 = ? + 78$

$1596 - 1004 = ? + 78$

$592 - 78 = 514$

(9) 3/12 of 5784 + (500 + 280) = ? + 50% of 624

$1446 + 780 = ? + 312$

$2226 - 312 = 1914$

(10) 40% of 60% of 1200 + 160 = (? ÷ 8) × 128

$288 + 160 = ?/8 \times 128$

$448 = 16x$

$? = 28$

(11) 13.33% of 1125 + 30.76% of 1105 - 26.66% of 525 = ?

$2/15 \times 1125 + 4/13 \times 1105 - 4/15 \times 525 = ?$

150 + 340 - 140 = 350

(12) 58 × 21 + 48 × 56 ÷ 14 = ? × 12

1218 + 192 = 12x

1410/12 = 117.5

(13) (√2304 × $36^2$) ÷ 192 = ? of {(75% of 54) - 10.5}

(48 × 1296) / 192 = ? × (40.5 - 10.5)

324 = ? × 30

324/30 = 10.8

(14) 2870 + 5842 + 9009 - 7024 - 1004 = ? × 3

9693/3 = 3231

(15) 80% of 8425 + 500% of 42 = ? + 18% of 2800

6740 + 210 = ? + 504

6950 - 504 = 6446

(15) 80% of 8425 + 500% of 42 = ? + 18% of 2800

6740 + 210 = ? + 504

6950 - 504 = 6446

(16) 5(1/12) + 8(3/4) + 7(4/3) - 3(5/6) - 4(7/12) + 5(1/6) = ?

18 + (1 + 9 + 16 - 10 - 7 + 2 / 12) = ?

18 + (11/12) = 18(11/12)

(17) {(524 + 816) ÷ 4} + {(784 + 106) ÷ 5} - {(424 + 724) ÷ 4} = ?

1340/4 + 890/5 - 1148/4 = ?

335 + 178 - 287 = 226

(18)$(1296)^2$ × (216) ÷ 36 = 6*

$(6^4)^2$ × $(6^3)$ ÷ $(6^2)$ = 6*

? = 9

(19) 800% × $\sqrt[3]{5832}$ + 750% of $\sqrt[3]{15625}$ = ? + 16.5 × 3

8 × 18 + 750/100 × 25 = ? + 49.5

144 + 187.5 = ? + 49.5

331.5 - 49.5 = 282

(20)(804 × 56/16 × 14) - (784 × 624/16 × 48) + (856 × 684/16 × 38) = ?

201 - 637 + 963 = 527

# 2. ARITHMETIC QUESTIONS

(1) A is twice as efficient as B and can complete a piece of work in 40 days. A and B together worked on it for 20 days and then left and C alone completed the rest of the work in 20 days. If A, B and C together are paid Rs 4000 for completing the work, then find the share received by A.

**A, B** से दोगुना कुशल है और एक काम को **40** दिनों में पूरा कर सकता है। **A** और **B** ने मिलकर उस पर **20** दिनों तक काम किया और फिर छोड़ दिया तथा **C** ने अकेले ही शेष काम को **20** दिनों में पूरा किया।यदि **A, B** और **C** को मिलकर कार्य पूरा करने के लिए **4000** रुपये का भुगतान किया जाता है, तो **A** को प्राप्त हिस्सा ज्ञात कीजिए।

(a)2000

(b)6000

(c)3000

(d)5000

(e) None of these

(2) Pari has Rs 50,000 with him. He invested some part of this at simple interest of 20% p.a. and rest at simple interest of 30% p.a. If total interest earned by her after 2 years is Rs 25000 then find the amount invested at 30% simple interest.

परी के पास **50,000** रुपये हैं। उसने इसका कुछ हिस्सा **20%** प्रति वर्ष के साधारण ब्याज पर और बाकी को **30%** प्रति वर्ष के साधारण ब्याज पर निवेश किया। यदि **2** वर्ष बाद उसे कुल **25000** रुपये ब्याज मिलता है, तो **30%** साधारण ब्याज पर निवेश की गई राशि ज्ञात कीजिए।

(a)26000

(b)25000

(c)15000

(d)27000

(e) None of these

(3) How many five-digit numbers larger than 60000 can be formed using the digits 2,5,7,8 and 0? (Repetition of digits is not allowed).

**2,5,7,8** और **0** अंकों का उपयोग करके **60000** से बड़ी पांच अंकों की कितनी संख्याएँ बनाई जा सकती हैं? **(**अंकों की पुनरावृत्ति की अनुमति नहीं है**)**

(a) 42

(b) 40

(c) 48

(d) 43

(e) None of these

(4) A boat takes a total of 50 hours to row 360 km upstream and to row the same distance downstream. If the speed of the boat in still water is 15 km/hr then what is the speed of the stream?

एक नाव को धारा के प्रतिकूल **360** किमी चलने में तथा धारा के अनुकूल समान दूरी चलने में कुल **50** घंटे लगते हैं। यदि स्थिर जल में नाव की गति **15** किमी/घंटा है, तो धारा की गति क्या है?

(a)4 km/hr

(b)9 km/hr

(c)3 km/hr

(d)5 km/hr

(e) None of these

(5) A boat can travel 126 km upstream as well as 108 km downstream in 15 hours and the same boat can travel 84 km upstream and 90 km downstream in 11 hours. Find the ratio of speed of boat in still water to speed of stream.

एक नाव धारा के प्रतिकूल **126** किमी और धारा के अनुकूल **108** किमी की यात्रा **15** घंटे में कर सकती है और वही नाव धारा के प्रतिकूल **84** किमी और धारा के अनुकूल **90** किमी की यात्रा **11** घंटे में कर सकती है। शांत जल में नाव की गति का धारा की गति से अनुपात ज्ञात कीजिए।

(a)2:1

(b)2:8

(c)8:4

(d)8:1

(e) None of these

(6) Find the total amount received on Rs 60000 when invested at 18% p.a. compound interest, compounded annually for 3 years.

**60000** रुपये को **18%** प्रति वर्ष की दर से निवेश करने पर प्राप्त चक्रवृद्धि ब्याज ज्ञात कीजिए, जो **2** वर्ष के लिए वार्षिक रूप से संयोजित होता है।

(a)73797

(b)45630

(C)90720

(d)12560

(e) None of these

(7) A, B and C can complete a work separately in 12, 18 and 24 days respectively. They started together but C left after 4 days of start and A left 3 days before the completion of the work. In how many days will the work be completed?

**A, B** और **C** एक कार्य को अलग-अलग क्रमशः **12, 18** और **24** दिनों में पूरा कर सकते हैं। वे एक साथ शुरू करते हैं लेकिन सी शुरू होने के **4** दिन बाद छोड़ देता है और ए काम पूरा होने से **3** दिन पहले छोड़ देता है। कार्य कितने दिनों में पूरा होगा?

(a)8.8 days

(b)7.8 days

(c)8.2 days

(d)7.5 days

(e) None of these

(8) In an office there are a total of 3000 employees. Last day, except 12% of the males, all the employees were present in the office. Today, except 18% of the female employees are present in the office but in both the days the number of employees present in the office were the same. The number of males in the office is ?

एक कार्यालय में कुल **3000** कर्मचारी हैं। पिछले दिन, **12%** पुरुषों को छोड़कर, सभी कर्मचारी कार्यालय में उपस्थित थे। आज, **12%** पुरुषों को छोड़कर, सभी कर्मचारी कार्यालय में उपस्थित थे।आज, **18%** को छोड़कर शेष महिला कर्मचारी कार्यालय में उपस्थित हैं, लेकिन दोनों दिनों में कार्यालय में उपस्थित कर्मचारियों की संख्या समान थी। कार्यालय में उपस्थित पुरुषों की संख्या कितनी है?

(a)1070

(b)1800

(c)1600

(d)1500

(e) None of these

(9) In Ritwik purse, there are 522 coins of 10p, 25p and 50p. The ratio of their value is 9:15:12. Calculate the number of coins of 25p ?

ऋत्विक पर्स में **10** पैसे, **25** पैसे और **50** पैसे के **522** सिक्के हैं। इनके मान का अनु पात **9:15:12** है। **25** पैसे के सिक्कों की संख्या की गणना करें?

(a) 180

(b)140

(c)200

(d)120

(e) None of these

(10) 1500 boys and 1200 girls appeared in an examination. If 40% boys and 80% girls get qualified for the next stage, then find the overall percentage of students who qualify for the next stage ?

**1500** लड़के और **1200** लड़कियाँ एक परीक्षा में शामिल हुए। यदि **40%** लड़के और **80%** लड़कियाँ अगले चरण के लिए योग्य हो जाते हैं, तो अगले चरण के लिए योग्य होने वाले छात्रों का कुल प्रतिशत ज्ञात कीजिए?

(a)53.33%

(b)53.22%

(c)58.33%

(d)57.77%

(e) None of these

(11) Sam travels from Patna to Gujarat in 4 equal parts. In the first part, he travelled by car at the speed of 20km/hr. In the second part he travelled on a bike at the speed of 30km/hr. Then he took a train and travelled at the speed of 40km/hr. And he travelled the remaining distance on ship at the speed of 60km/hr. Find his average speed ?

सैम पटना से गुजरात तक **4** बराबर भागों में यात्रा करता है। पहले भाग में वह कार से **20** किमी/घंटा की गति से यात्रा करता है। दूसरे भाग में वह बाइक से **30** किमी/घंटा की गति से यात्रा करता है। फिर उसने रेलगाड़ी ली और **40** किमी/घंटा की गति से यात्रा की। और उसने शेष दूरी **60** किमी/घंटा की गति से जहाज से तय की। उसकी औसत गति ज्ञात कीजिए?

(a)32

(b)62

(c)25

(d)28

(e) None of these

(12) How many chords can be drawn through 15 points on a circle ?

एक वृत्त पर **15** बिंदुओं से होकर कितनी जीवाएँ खींची जा सकती हैं?

(a)102

(b)108

(c)105

(d)104

(e) None of these

(13) If the radius of a hemisphere is 21 cm. Find its total surface area? (in $cm^2$)

**यदि एक अर्धगोले की radius 21 सेमी है, तो इसका कुल पृष्ठीय क्षेत्रफल ज्ञात कीजिए? (सेमी² में)**

(a)4152

(b)4158

(c)3152

(d)2255

(e) None of these

(14) If the average salary of all the teachers in school is Rs.450. The average salary of female teachers is Rs.350 and that of male teachers is Rs.500. If there are 50 male teachers in school, find the total number of teachers in a school?

**यदि स्कूल में सभी शिक्षकों का औसत वेतन 450 रुपये है। महिला शिक्षकों का औसत वेतन 350 रुपये और पुरुष शिक्षकों का औसत वेतन 500 रुपये है। यदि स्कूल में 50 पुरुष शिक्षक हैं, तो महिला शिक्षकों का औसत वेतन 350 रुपये और पुरुष शिक्षकों का औसत वेतन 500 रुपये है।एक स्कूल में शिक्षकों की कुल संख्या ज्ञात कीजिए?**

(a)66

(b)65

(c)55

(d)75

(e) None of these

(15)Pritam and Raja can complete work in 16 days and 64 days respectively. Find the time taken by both if they work alternatively, starting with Pritam?

प्रीतम और राजा क्रमशः **16** दिन और **64** दिन में काम पूरा कर सकते हैं। यदि वे प्रीतम से शुरू करके बारी-बारी से काम करते हैं, तो दोनों द्वारा लिया गया समय ज्ञात कीजिए?

(a)13.4

(b)12.4

(c)15.2

(d)12.2

(e) None of these

(16) The speed of man in still water is 20 Km/hr and the speed of current is 5 Km/hr. Find the time taken by man to go to a place 600 km far and come back?

स्थिर जल में एक व्यक्ति की गति **20** किमी/घंटा है तथा धारा की गति **5** किमी/घंटा है। **600** किमी दूर एक स्थान पर जाने तथा वापस आने में व्यक्ति द्वारा लिया गया समय ज्ञात कीजिए।

(a) 34 hr

(b) 36 hr

(c) 84 hr

(d) 48 hr

(e) More than one option

(17) The monthly income of Ram is 2/3 of that of Raj. If the monthly income of Raj is Rs36000. Find the annual income of Ram?

राम की मासिक आय राज की आय का **2/3** है। यदि राज की मासिक आय **36000** रुपये है, तो राम की वार्षिक आय ज्ञात कीजिए?

(a)288000

(b)244000

(c)255000

(d)266000

(e) None of these

(18) A profit of 25% is earned on a certain good when a discount of 20% is allowed on the marked price. What profit percentage will be earned when a discount of 10% is allowed on the marked price?

एक निश्चित वस्तु पर **25%** का लाभ अर्जित किया जाता है जब अंकित मूल्य पर **20%** की छूट दी जाती है। अंकित मूल्य पर **10%** की छूट देने पर कितना लाभ प्रतिशत अर्जित होगा?

(a)39⅝%

(b)40⅝%

(c)50⅝%

(d)32⅝%

(e) None of these

(19) When the price of sugar decreases by 10%, a man could buy 1 kg more for ₹300. What is the original price of the sugar per kg?

जब चीनी की कीमत **10%** कम हो जाती है, तो एक आदमी **₹300** में **1** किलो अधिक चीनी खरीद सकता है। प्रति किलो चीनी की मूल कीमत क्या है**?**

(a)Rs.23.33

(b)Rs.83.33

(c)Rs.33.33

(d)Rs.53.33

(e) None of these

(20) In how many different ways can the letters of the word 'ENGLISH' be arranged?

शब्द **'ENGLISH'** के अक्षरों को कितने प्रकार से व्यवस्थित किया जा सकता है?

(a)5013

(b)5218

(c)5240

(d)5040

(e)None of above

# Answers:

(1)a

(2)b

(3)c

(4)c

(5)d

(6)e

(7)e

(8)b

(9) a

(10)d

(11)a

(12)c

(13)b

(14)d

(15)e

(16)c

(17)a

(18)b

(19)c

(20)d

# Solutions:

(1). Days Efficiency

A 40 2

80

B 80 1

Efficiency of A+B= 3 units.

In 20 days 60 unit work will done

C will do 20 unit in 20 days, efficiency -1

Then work done by A, B, C= 40, 20, 20 units.

80 u=4000

40u =2000

(2) overall interest will be 25%

30% 20%

25%

5 : 5

1 : 1

Required amount = 25,000

(3) Required number of ways = 2*4*3*2 = 48

(4) Let the speed of water x km/hr

According to the question,

360/(15+x) +360/(15-x )=50

x =3 km/hr

(5) 126 / (B - W) + 108 / (B + W) = 15

84 / (B - W) + 90 / (B + W) = 11

B = 16 km / hr

W = 2 km / h r

Required ratio = 16:2 = 8:1

(6) According to the question

P= 50000

C.I. 1ST YEAR = 9000 , For 2nd year = 9000+1620 and for 3rd year 9000 +3531.6

Amount =32151.6

(7) Let the total work be 72 units.

A's one day work = 6 units

B's one day work = 4 units

C's one day work = 3 units

12(x-3) +4x + 3*4 =72

12x-36+4x+12 =72

16x =96 ; x= 6

(8) Total employ =3000

According to the ques→ 12% male = 18% Female

12M =18F

M/F = 18/12

Male = 3000*18/30 =1800

(9) To make 9 rupee we need 10p = 90 coins

To make 15 rupee we need 25p = 60 coins

To make 12 rupee we need 50p = 24 coins

90 + 60 + 24 = 522

1 unit=3

Total 25p=60*3 =180

(10) Total boys qualified → 1500x40% = 600

Total girl qualified =1200*80% =960

Total % = 1560/2700*100= 57.77

(11) let total distance is 120

Time taken by car = 120/20=6hr

Time taken by bike = 120/30=4 hr

Time taken by train =120/40=3 hr

Time taken by ship =120/60= 2 hr

Average speed=12*4/15=32

(12)chords mean any two point on circle

= 15C2

= (15 * 14)/2

=105

(13) Total surface area of hemisphere $3\pi r^2$

=3*22/7*21*21= 4158 $cm^2$

(14) by allegation F M

350 500

450

50 100

Ratio of female to male = 1:2

Total number =50*4/2 =75

(15) Days Efficiency

Pritam= 16 64 4

Raja = 64 1

They work alternatively , started by Pritam so ,

2 days ----------> 5units {work done}

2*12 = 24 days ----------> 5*12 = 60{work done}

24 + 1 = 25 days----------> 60+4 = 64 { pritam do 4 units of work /day}

25 days {Answer}

(16) Downstream speed= 20+5= 25

Upstream speed = 20-5 =15

Time = 600/25 + 600/15 =24+40 =84hr

(17) monthly income of Ram= (2/3) *36000=24000

Annual income of Ram= 24000*12=288000

(18) Marked price of goods = 100 SP = ₹80

In 1st case CP of goods = 80 x 100/125 = 64

In 2nd case SP of goods = 100 - 10 = 90

Percentage profit = 90-64/64*100

40⅝%

(19) The person could buy 1 kg more due to 10% reduction is price = 1 kg extra got 10% of 270

Reduced price = 10% of 300 /2kg = 30 kg

100 Original price = 30*100/90 = 33.33 kg

(20) ENGLISH consists of seven distinct letters. Hence total no. of ways of arrangements = 7! = 5040

# 3. Quadratic Equations

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

(These are common options for all questions that follow.)

(A) x>y

(B) x<y

(C) x=y or no relation can be established

(D) x≥y

(E) x≤y

1.$7x^2$- 23x - 20 = 0

$Y^3$ - 84 = 428

2. $x^2$ + 11x - 152 = 0

$y^2$- 49y+ 600 =0

3. $3x^2$ = 2187

$y^2$- 24y+ 128 = 0

4. $x^2$- 27x + 182 = 0

$y^2 - 6y - 91 = 0$

5. $x^2 + 15x - 76 = 0$

$y^2 - 40y + 256 = 0$

6. $4x^2 - 36x + 56 = 0$

$y^2 + 36y + 203 = 0$

7. $x^2 - 6x - 112 = 0$

$y^2 - 33y + 270 = 0$

8. $x^2 - 50x + 625 = 0$

$y^2 - 70y + 1225 = 0$

9. $8x^2 = 8192$

$y^2 = 441$

10. $2x^2 - 13x - 84 = 0$

$3y^2 - 22y + 24 = 0$

11. $2x^2 + 5x - 18 = 0$

$4y^2 - 28y + 40 = 0$

12. $8x^2 + 10x - 52 = 0$

$2y^2 - 15y + 28 = 0$

13. $x^2 - 8x - 825 = 0$

$y^2 + 90y + 2025 = 0$

14. $x^3 = 21952$

$y^2 - 36y + 224 = 0$

15. $x^2 - 14x - 147 = 0$

$y^2 - 43y + 420 = 0$

16. $2x^2 - 27x + 55 = 0$

$6y^2 - 17y + 11 = 0$

17. $6x^2 - 16x + 8 = 0$

$2y^2 - 21y + 45 = 0$

18. $3x^2 - 11x - 20 = 0$

$y^2 - 42y + 216 = 0$

19. $x = \sqrt{3136}$

$y^3 = 19683$

20. $x^2 - 16x - 132 = 0$

$y^2 + 29y + 138 = 0$

ANSWER KEY

1. B

2. B

3. C

4. D

5. B

6. C

7. B

8. E

9. C

10. C

11. E

12. B

13. A

14. D

15. C

16. A

17. B

18. B

19. A

20. D



SOLUTION

1. Solution: B

x= -5/7,4

y = 8,8,8

2. Solution: B

x= -19,8

y= 24,25

3. Solution: C

x= 27, -27

y= 16,8

4. Solution: D

x= 13,14

y= 13,-7

5. Solution: B

x= -19, 4

y= 32,8

6. Solution: A

x= 7, 2

y= -29,7

7. Solution: B

x= 14,-8

y= 15,18

8. Solution: E

x= 25,25

y= 25,49

9. Solution: C

x= 32, -32

y= 21, -21

10. Solution: C

x= 21/2,-4

y= 6,4/3

11. Solution: E

x= -9/2,2

y= 5,2

12. Solution: B

x= -26/8,2

y= 4,7/2

13. Solution: A

x= -33,25

y= -45,-45

14. Solution: D

x= 28,28,28

y= 28,8

15. Solution: E

x= 21, -7

y= 21,22

16. Solution: A

x= 11,5/2

y= 11/6,1

17. Solution: B

x= 2,4/6

y= 15/2,3

18. Solution: B

x= 3,4/3

y= 36,6

19. Solution: A

x= 56

y= 27

20. Solution: D

x= 22 , -6

y= -23,-6

# 4. WRONG NUMBER SERIES

(1) 575, 626, 588, 613, 597, 606

(a) 588

(b) 626

(c) 606

(d) 575

(e) None of these

(2) 128, 32, 224, 57, 392, 98

(a) 392

(b) 128

(c) 57

(d) 224

(e) None of these

(3) 5, 20, 85, 320, 1280, 5120

(a) 85

(b) 5

(c) 5120

(d) 320

(e) None of these

(4) 972, 964, 952, 934, 910, 879

(a) 972

(b) 879

(c) 934

(d) 910

(e) None of these

(5) 3, 16, 83, 505, 3501, 28008

(a) 83

(b) 3501

(c) 28008

(d) 505

(e) None of these

(6) 660, 669, 687, 714, 750, 798

(a) 750

(b) 714

(c) 660

(d) 669

(e) None of these

(7) 224, 265, 285, 321, 346, 382

(a) 321

(b) 224

(c) 346

(d) 382

(e) None of these

(8) 290, 301, 337, 384, 470, 597

(a) 301

(b) 290

(c) 337

(d) 470

(e) None of these

(9) 75, 154, 315, 632, 1271, 2550

(a) 315

(b) 1271

(c) 2550

(d) 154

(e) None of these

(10) 655, 665, 651, 664, 652, 663

(a) 665

(b) 664

(c) 655

(d) 663

(e) None of these

(11) 205, 410, 615, 805, 995, 1180

(a) 205

(b) 615

(c) 410

(d) 995

(e) None of these

(12) 1360, 1261, 1166, 1075, 988, 905

(a) 1166

(b) 1262

(c) 988

(d) 905

(e) None of these

(13) 6, 6.25, 8.5, 14.75, 28, 47.25

(a) 6

(b) 47.25

(c) 28

(d) 8.5

(e) None of these

(14) 277, 313, 288, 304, 295, 300

(a) 313

(b) 295

(c) 288

(d) 277

(e) None of these

(15) 1248, 312, 80, 26, 13, 13

(a) 80

(b) 26

(c) 13

(d) 312

(e) None of these

(16) 544, 548, 554, 574, 612, 674

(a) 548

(b) 544

(c) 674

(d) 612

(e) None of these

(17) 6, 8, 20, 69, 292, 1485

(a) 20

(b) 1485

(c) 69

(d) 292

(e) None of these

(18) 8, 38, 187, 932, 4650, 23244

(a) 932

(b) 23244

(c) 4650

(d) 187

(e) None of these

(19) 65, 69, 63, 49, 33, 13

(a) 69

(b) 63

(c) 49

(d) 13

(e) None of these

(20) 555, +75, 630, 705, 1340, 2040

(a) +75

(b) 2040

(c) 1340

(d) 705

(e) None of these

**Answers**

(1) b

(2) c

(3) a

(4) a

(5) d

(6) e

(7) e

(8) d

(9) a

(10) c

(11) b

(12) b

(13) c

(14) e

(15) a

(16) a

(17) e

(18) a

(19) b

(20) c

**Solutions**

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

(2) ÷4, *7, ÷4, *7, ÷4

(3) *4, *4, *4, *4, *4

(4) -6, -12, -18, -24, -30

(5) *4+4, *5+3, *6+2, *7+1, *8+0

(6) +9, +18, +27, +36, +45

(7) $+6^2, +5^2, +6^2, +5^2, +6^2$

(8) +11, +36, +47, +83, +130

(9) *2+4, *2+5, *2+6, *2+7, *2+8

(10) +15, -14, +13, -12, +11

(11) +205, +200, +195, +190, +185

(12) -99, -95, -91, -87, -83

(13) +0.5*0.5, +1.5*1.5, +2.5*2.5, +3.5*3.5, +4.5*4.5

(14) $+6^2, -5^2, +4^2, -3^2, +2^2$

(15) ÷5, ÷4, ÷3, ÷2, ÷1

(16) +2, +8, +20, +38, +62

+6, +12, +18, +24

(17) $*1+1^2, *2+2^2, *3+3^2, *4+4^2, *5+5^2$

(18) *5-2, *5-3, *5-4, *5-5, *5-6

(19) +1*4, -2*4, -3*4, -4*4, -5*4

(20) Sum of the previous two numbers

# 5. MISSING NUMBER SERIES

(1) 2400, 1200, 240,?, 24,12

(a) 124

(b) 120

(c) 102

(d) 110

(e) 111

(2) 45, 1045, ?, 1773, 1837, 1845

(a) 1557

(b) 1550

(c) 1555

(d) 1055

(e) 1551

(3) 780, ?, 823, 846, 870, 895

(a) 188

(b) 899

(c) 800

(d) 801

(e) 890

(4) 130, 50, 180, ?, 410, 640

(a) 205

(b) 234

(c) 230

(d) 256

(e) 203

(5) 15, 12.5, 22.5, 65, 257.5, ?

(a) 1112

(b) 1250

(c) 1211

(d) 1285

(e) 1200

(6) 260, 549, 293, ?, 322, 491

(a) 508

(b) 511

(c) 518

(d) 586

(e) 506

(7) 290, ?, 344, 398, 470, 560

(a) 299

(b) 308

(c) 398

(d) 369

(e) 465

(8) ?, 1530, 1558, 1532, 1556, 1534

(a) 1650

(b) 1669

(c) 1560

(d) 1238

(e) 1589

(9) 4, 8, 24, ?, 480, 2880

(a) 96

(b) 66

(c) 91

(d) 39

(e) 90

(10) 68, ?, 83, 90.5, 98, 105.5

(a) 71

(b) 45.5

(c) 75.1

(d) 55.5

(e) 75.5

(11) ?, 6, 15, 52.5, 236.25, 1299.375

(a) 14

(b) 49

(c) 40

(d) 4

(e) None of these

(12) 3, ?, 47, 239, 1439, 10079

(a) 111

(b) 11

(c) 19

(d) 21

(e) 29

(13) 1820, 1690, ?, 1490, 1420, 1370

(a) 1799

(b) 1500

(c) 1580

(d) 1856

(e) 1155

(14) 97, 113, 177, 433, ?, 5553

(a) 1154

(b) 1451

(c) 1514

(d) 1054

(e) 1457

(15) 1560, 1391, 1247, 1126, 1026, ?

(a) 945

(b) 911

(c) 599

(d) 909

(e) 119

(16) 250, 50, 100, 20, ?, 8

(a) 19

(b) 40

(d) 14

(d) 41

(e) None of these

(17) 48, 64, 88, ?, 160, 208

(a) 111

(b) 102

(c) 201

(d) 199

(e) 120

(18) ?, 549.5, 548.5, 821.25, 1640.5, 4098.75

(a) 1100

(b) 2100

(c) 1999

(d) 1099

(e) 1919

(19) 60, 15, ?, 5.625, 5.625

(a) 5.85

(b) 8.75

(c) 7.5

(d) 7.1

(e) 8.5

(20) 1700, 1770, 1710, 1760, ?, 1750

(a) 1569

(b) 1720

(c) 1270

(d) 1799

(e) 1709

**Answers**

(1) b

(2) a

(3) d

(4) c

(5) d

(6) c

(7) b

(8) c

(9) a

(10) e

(11) d

(12) b

(13) c

(14) e

(15) a

(16) b

(17) e

(18) a

(19) c

(20) b

**Solutions**

(1) ÷2, ÷5, ÷2, ÷5, ÷2

(2) $+10^3$, $+8^3$, $+6^3$, $+4^3$, $2^3$

(3) +21, +22, +23, +24, +25

(4) Sum of the previous two numbers

(5) *1-2.5, *2-2.5, *3-2.5, *4-2.5, *5-2.5

(6) $+17^2$, $-16^2$, $+15^2$, $-14^2$, $+13^2$

(7) +18, +36, +54, +72, +90

(8) -30, +28, -26, +24, -22

(9) *2, *3, *4, *5, *6,

(10) +7.5, +7.5, +7.5, +7.5, +7.5

(11) *1.5, *2.5, *3.5, *4.5, *5.5

(12) *3+2, *4+3, *5+4, *6+5, *7+6

(13) -130, -110, -90, -70, -50

(14) $+4^2, +4^3, +4^4, +4^5, +4^6$

(15) $-13^2, -12^2, -11^2, -10^2, -9^2$

(16) ÷5, *2, ÷5, *2, ÷5

(17) +2*8, +3*8, +4*8, +5*8, +6*8

(18) *0.5-0.5, *1-1, *1.5-1.5, *2-2, *2.5-2.5

(19) *0.25, *0.5, *0.75, *1

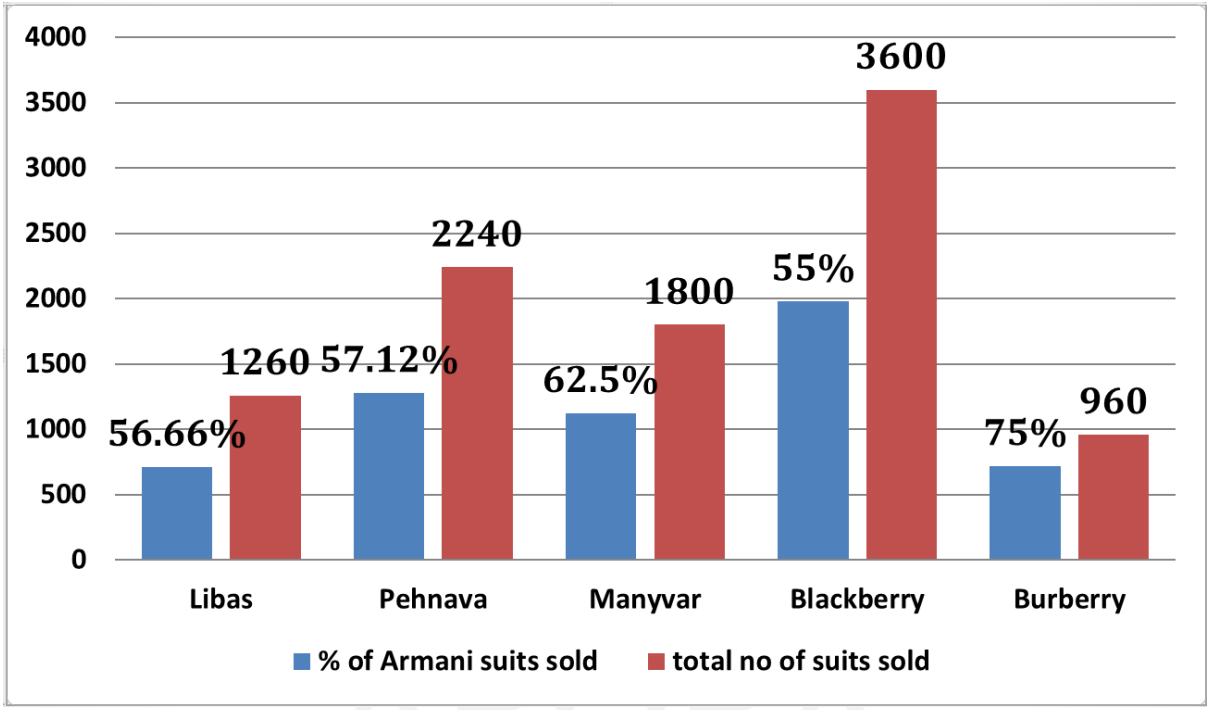
(20) +70, -60, +50, -40, +30

# 6. DATA INTERPRETATION

**SET 1.** The bar graph shows the data about number of two types of suites sold by five different brands. Read the data and answer the following questions.

Note : Total number of suits sold = number of Armani suits sold + number of Zegna suits.

बार ग्राफ़ में पाँच विभिन्न ब्रांडों द्वारा बेचे गए दो प्रकार के सूटों की संख्या का डेटा दिखाया गया है।
नोट: कुल बेचे गए सूट = बेचे गए Armani सूट की संख्या + बेचे गए Zegna सूट की संख्या।




1. The number of Safari suits sold by Pehnava brand is 25% more than the number of Zegna suits sold by Pehnava brand so find the difference between number of Armani suits sold by Pehnava brand and number of Safari suits sold by Pehnava brand?
Pehnava ब्रांड द्वारा बेचे गए Safari सूट की संख्या, Pehnava ब्रांड द्वारा बेचे गए Zegna सूट की संख्या से 25% अधिक है। तो, Pehnava ब्रांड द्वारा बेचे गए Armani सूट और Safari सूट की संख्या के बीच का अंतर ज्ञात करें।

(A)80
(B)70
(C)45
(D)75
(E)None of these

2. Find the average number of Zegna suits sold by Pehnava, Manyvar and Blackberry brand.

   Pehnava, Manyvar और Blackberry ब्रांड द्वारा बेचे गए Zegna सूट की औसत संख्या ज्ञात करें।

   (A)1085
   (B)1060
   (C)1075
   (D)1035
   (E)None of these

3. The number of Armani suits sold by Blackberry & Burberry brand together is approximately what percent of the number of Zegna suits sold by Pehnava & Manyvar brand together?
   Blackberry और Burberry ब्रांड द्वारा बेचे गए Armani सूट की कुल संख्या, Pehnava और Manyvar ब्रांड द्वारा बेचे गए Zegna सूट की कुल संख्या का लगभग कितने प्रतिशत है?
   (A)142.54%
   (B)122.22%
   (C)128.56%
   (D)165.13%
   (E)None of these

4. If 37.5% & 16.66% of the number of Armani suits & Zegna suits sold by Burberry brand is of black color, and if the difference between the number of black Armani suits & black Zegna suits sold is '4x-10', then x% of the total number of suits sold by Blackberry brand is how much more or less than the total number of suits sold by Manyvar brand?

Burberry ब्रांड द्वारा बेचे गए Armani सूट और Zegna सूट की क्रमशः 37.5% और 16.66% संख्या काले रंग की है। यदि बेचे गए काले Armani और काले Zegna सूट की संख्या के बीच का अंतर '4x-10' है, तो Blackberry ब्रांड द्वारा बेचे गए कुल सूट की संख्या का x% कितनी अधिक या कम है Manyvar ब्रांड द्वारा बेचे गए कुल सूट की संख्या से?
(A)720 less
(B)420 more
(C)360 more
(D)200 less
(E)None of these

5. Find the ratio between the number of Armani suits sold by Burberry brand and the number of Zegna suits sold by Burberry brand.
Burberry ब्रांड द्वारा बेचे गए Armani सूट और Zegna सूट की संख्या का अनुपात ज्ञात करें।
(A)3:4
(B)4:5
(C)2:5
(D)3:1
(E)None of these

# Solutions

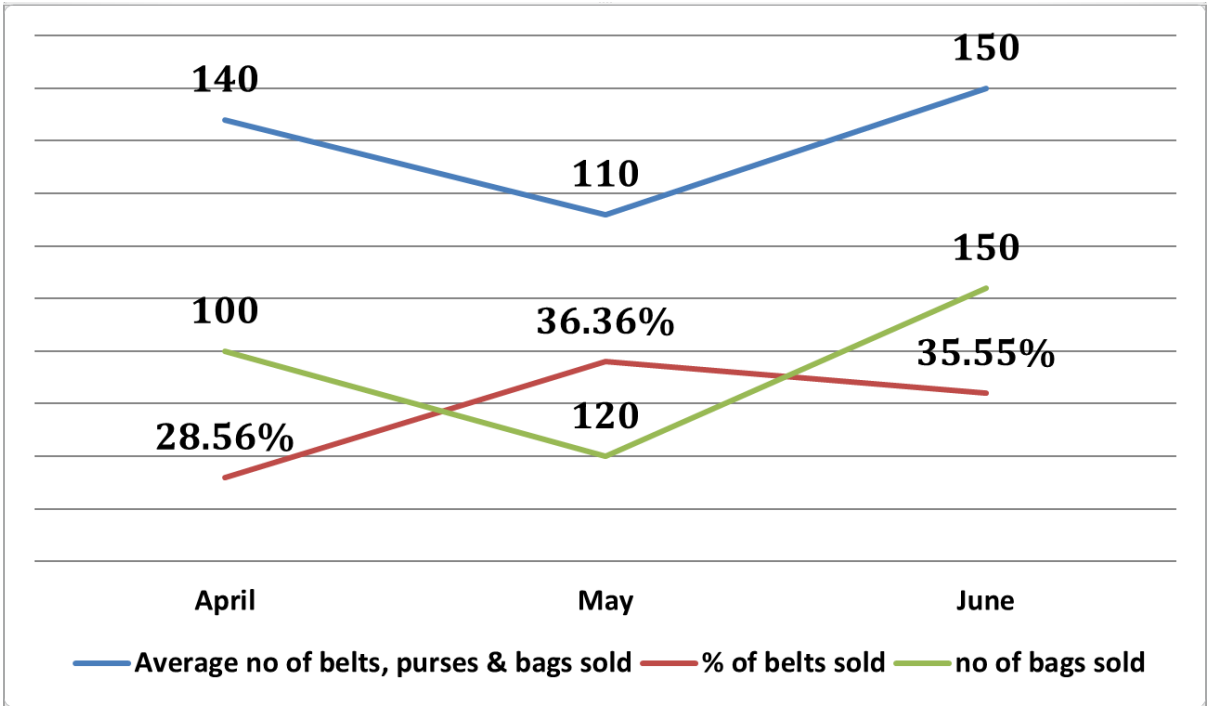
For Libas brand : number of Armani suits sold = 56.66% of 1260 = 17/30 of 1260 = 714 & number of Armani suits sold = 1260 – 714 = 546. Similarly we get

| | Armani suits | Zegna suits | Total |
|---|---|---|---|
| **Libas** | 714 | 546 | **1260** |
| **Pehnava** | 1280 | 960 | **2240** |
| **Manyvar** | 1125 | 675 | **1800** |
| **Blackberry** | 1980 | 1620 | **3600** |
| **Burberry** | 720 | 240 | **960** |

1. (A)80 {number of Safari suits sold by Pehnava brand is 25% more than the number of Zegna suits sold by Pehnava brand so number of Safari suits sold by Pehnava brand = 5/4 of 960 = 1200 so required answer = 1280 – 1200 = 80}
2. (A)1085
3. (D)165.13%
4. (C)360 more {37.5% & 16.66% of the number of Armani suits & Zegna suits sold by Burberry brand is of black color, so number of black Armani suits sold = 3/8 of 720 = 270 & number of black Zegna suits sold = 1/6 of 240 =40 and if the difference between the number of black Armani suits & black Zegna suits sold is '4x-10' so 4x-10 = 270-40 & x = 60. So required answer = 3/5 of 3600 – 1800 = 360 more}
5. (D)3:1

**SET 2.** The line graph shows the data about number of three items sold in three different months. Read the data and answer the following questions.

लाइन ग्राफ़ में तीन अलग-अलग महीनों में बेचे गए तीन वस्तुओं की संख्या का डेटा दिखाया गया है। नीचे दिए गए प्रश्नों का उत्तर दें:



1. In January, if the number of bags sold is 3/4th of the number of purses sold and the number of purses sold in January is double the number of purses sold in April, then find the ratio of number of purses sold in June and number of purses sold in January.
जनवरी में, बेचे गए बैगों की संख्या बेचे गए पर्स की संख्या का 3/4 है और जनवरी में बेचे गए पर्स की संख्या अप्रैल में बेचे गए पर्स की संख्या से दोगुनी है। तो, जून में बेचे गए पर्स की संख्या और जनवरी में बेचे गए पर्स की संख्या का अनुपात ज्ञात करें।

(A)4:9
(B)7:12
(C)8:41
(D)7:20
(E)None of these

2. Determine the difference between the number of purses and clutches sold in May if the number of clutches sold was 12.5% more than the number of bags sold.
मई में बेचे गए पर्स और क्लच की संख्या के बीच का अंतर ज्ञात करें, यदि बेचे गए क्लच की संख्या बैगों की संख्या से 12.5% अधिक है।

(A)45
(B)60
(C)75
(D)35
(E)None of these

3. If the number of belts, purses and bags sold in July is 20%, 28.56% and 33.33% more than the number of belts, purses and bags sold in June respectively, then find the average of number of purses sold in July & number of bags sold in May.
यदि जुलाई में बेचे गए बेल्ट, पर्स और बैग की संख्या जून में बेचे गए बेल्ट, पर्स और बैग की संख्या से क्रमशः 20%, 28.56% और 33.33% अधिक है, तो जुलाई में बेचे गए पर्स और मई में बेचे गए बैग की औसत संख्या ज्ञात करें।
(A)120
(B)150
(C)180

(D)220
(E)None of these

4. Find the average number of belts sold in May and June month.
मई और जून महीने में बेचे गए बेल्ट की औसत संख्या ज्ञात करें।
(A)110
(B)140
(C)120
(D)100
(E)None of these

5. The number of bags sold in April & May together is how much more or less than the number of purses sold in May & June together?
अप्रैल और मई में बेचे गए बैगों की कुल संख्या मई और जून में बेचे गए पर्स की कुल संख्या से कितनी अधिक या कम है?
(A)35 more
(B)20 less
(C)70 more
(D)10 less
(E)None of these

# Solutions

For april : Average no of belts, purses & bags sold = 140 and sum of no of belts, purses & bags sold = 140×3 = 420 and number of belts sold = 2/7 of 420 = 120 & number of bags sold = 100 so number of purses sold = 420 – (120+100) = 200. Similarly we get,

| | no of belts sold | no of purses sold | no of bags sold | Total |
|---|---|---|---|---|
| **April** | 120 | 200 | 100 | **420** |
| **May** | 120 | 90 | 120 | **330** |
| **June** | 160 | 140 | 150 | **450** |

1. (D)7:20 { In January, if the number of bags sold is 3/4th of the number of purses sold and the number of purses sold in January is double the number of purses sold in April so number of purses sold in January = 400 so Required answer = 140 : 400 = 7:20}
2. (A)45 {number of clutch sold in May = 9/8 of 120 = 135. Required answer = 135 – 90 = 45}
3. (B)150
4. (B)140
5. (D)10 less

**SET 3.** Directions : Study the following passage carefully and answer the questions given below.

The data is about different number of INCOME TAX INSPECTOR and ASSISTANT SECTION OFFICER in four different branches. In branch B, the number of INCOME TAX INSPECTOR is 180% of number of ASSISTANT SECTION OFFICER in that branch. In branch C, the number of INCOME TAX INSPECTOR are 60 less than number of INCOME TAX INSPECTOR in branch A and total number of INCOME TAX INSPECTOR and ASSISTANT SECTION OFFICER in

branch C is 240. The total number of ASSISTANT SECTION OFFICER in branch D and branch A is 260. The number of INCOME TAX INSPECTOR in branch D is 60 less than that of INCOME TAX INSPECTOR in branch B. In branch A the number of INCOME TAX INSPECTOR is 210 and the number of ASSISTANT SECTION OFFICER is 100% more than the number of ASSISTANT SECTION OFFICER in branch B. In branch D the number of INCOME TAX INSPECTOR are 42.84% less than number of INCOME TAX INSPECTOR of branch A.

चार अलग-अलग शाखाओं में INCOME TAX INSPECTOR और ASSISTANT SECTION OFFICER की संख्या के बारे में डेटा दिया गया है। शाखा B में, INCOME TAX INSPECTOR की संख्या उस शाखा में ASSISTANT SECTION OFFICER की संख्या का 180% है। शाखा C में, INCOME TAX INSPECTOR की संख्या, शाखा A में INCOME TAX INSPECTOR की संख्या से 60 कम है और शाखा C में INCOME TAX INSPECTOR और ASSISTANT SECTION OFFICER की कुल संख्या 240 है। शाखा D और शाखा A में ASSISTANT SECTION OFFICER की कुल संख्या 260 है। शाखा D में INCOME TAX INSPECTOR की संख्या, शाखा B में INCOME TAX INSPECTOR की संख्या से 60 कम है। शाखा A में INCOME TAX INSPECTOR की संख्या 210 है और ASSISTANT SECTION OFFICER की संख्या, शाखा B में ASSISTANT SECTION OFFICER की संख्या से 100% अधिक है। शाखा D में INCOME TAX INSPECTOR की संख्या, शाखा A में INCOME TAX INSPECTOR की संख्या से 42.84% कम है।

1. Find the difference between number of INCOME TAX INSPECTOR in branch C and number of ASSISTANT SECTION OFFICER in branch D.
   शाखा C में INCOME TAX INSPECTOR की संख्या और शाखा D में ASSISTANT SECTION OFFICER की संख्या के बीच का अंतर ज्ञात करें।
   (A)50
   (B)80
   (C)50

(D)90

(E)None of these

2. Find the average number of ASSISTANT SECTION OFFICER in branch A, B and C.
शाखा A, B और C में ASSISTANT SECTION OFFICER की औसत संख्या ज्ञात करें।
(A)100

(B)130

(C)150

(D)180

(E)None of these

3. The number of INCOME TAX INSPECTOR in branch A is what percent of number of ASSISTANT SECTION OFFICER in branch C?
शाखा A में INCOME TAX INSPECTOR की संख्या, शाखा C में ASSISTANT SECTION OFFICER की संख्या का कितने प्रतिशत है?
(A)121.56%

(B)166.66%

(C)172.84%

(D)233.33%

(E)None of these

4. Find the ratio between number of INCOME TAX INSPECTOR in branch D and number of ASSISTANT SECTION OFFICER in branch C.
शाखा D में INCOME TAX INSPECTOR की संख्या और शाखा C में ASSISTANT SECTION OFFICER की संख्या के बीच का अनुपात ज्ञात करें।
(A)3:5

(B)5:6

(C)4:3

(D)8:3

(E)None of these

5. The number of ASSISTANT SECTION OFFICER in branch A is how much more or less than total number of ASSISTANT SECTION OFFICER in branch D?
शाखा A में ASSISTANT SECTION OFFICER की संख्या, शाखा D में ASSISTANT SECTION OFFICER की कुल संख्या से कितनी अधिक या कम है?
(A)140 more

(B)100 less

(C)150 more

(D)200 less

(E)None of these

**SOLUTION:-**

| Branch | Income tax inspector | Assistant Section Officer | Total |
|---|---|---|---|
| **A** | 210 | 200 | **410** |
| **B** | 180 | 100 | **280** |
| **C** | 150 | 90 | **240** |
| **D** | 120 | 60 | **180** |

1. (D)90
2. (B)130
3. (D)233.33%
4. (C)4:3
5. (A)140 more