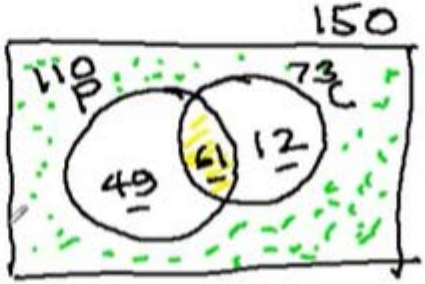
• • In a class of 150 students, 110 students passed in Physics and 73 students passed in Chemistry. 61 Students passed in both Physics and Chemistry

- How many students passed only in Physics?
  (A) 59 (B) 49
  (C) 51 (D) 12
- How many students passed in neither Physics nor Chemistry?
  (A) 28 (B) 12
  (C) 35 (D) 49
- How many students passed in at least one subject?
  (A) 150 (B) 61
  (C) 89 (D) 122

• • The class teacher has posed two questions A and B to the 160 students of her class. 95 students answered question A, 80 students answered question B and 40 students answered both the questions.

- How many students could not answer any of the two questions?
  (A) 30 (B) 25 (C) 40 (D) 15
- How many students answered only question A?
  (A) 95 (B) 60 (C) 50 (D) 55
- How many students could not answer only one question?
  (A) 80 (B) 70 (C) 95 (D) 120
- The number of students who answered only question B is what percentage of students who answered question B?
  (A) 50% (B) 60% (C) 25% (D) $33\frac{1}{3}$ %

- In a class of 150 students, 110 students passed in Physics and 73 students passed in Chemistry. 61 Students passed in both Physics and Chemistry.
  - How many students passed only in Physics?
    (A) 59 (B) 49
    (C) 51 (D) 12
  - How many students passed in neither Physics nor Chemistry?
    (A) 28 (B) 12
    (C) 35 (D) 49
  - How many students passed in at least one subject?
    (A) 150 (B) 61
    (C) 89 (D) 122



Only Phys
$= 110 - 61$
$= 49$

Only Chem
$= 73 - 61 = 12$

Neither Phy nor Chem
$= 150 - (110 + 12)$
$= 150 - 122$
$= 28$

- The class teacher has posed two questions A and B to the 160 students of her class. 95 students answered question A, 80 students answered question B and 40 students answered both the questions.
  - How many students could not answer any of the two questions?
    (A) 30 (B) 25 (C) 40 (D) 15
  - How many students answered only question A?
    (A) 95 (B) 60 (C) 50 (D) 55
  - How many students could not answer only one question?
    (A) 80 (B) 70 (C) 95 (D) 120
- The number of students who answered only question B is what percentage of students who answered question B?
  (A) 50% (B) 60% (C) 25% (D) $33\frac{1}{3}\%$

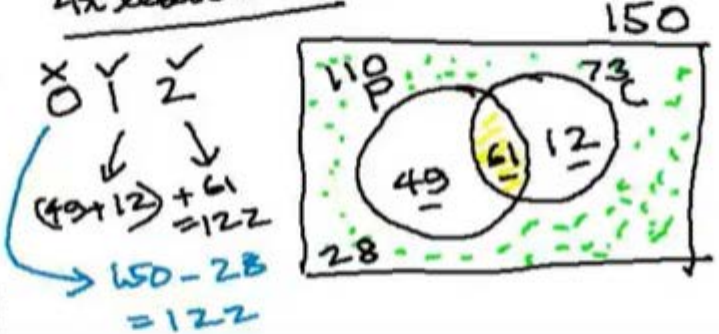
- In a class of 150 students, 110 students passed in Physics and 73 students passed in Chemistry. 61 Students passed in both Physics and Chemistry

  - How many students passed only in Physics?
    (A) 59 (B) 49
    (C) 51 (D) 12

  - How many students passed in neither Physics nor Chemistry?
    (A) 26 (B) 12
    (C) 35 (D) 49

  - How many students passed in at least one subject?
    (A) 150 (B) 61
    (C) 89 (D) 122

At least 1 sub :-



Only Phy
= 110 - 61
= 49

Only Chem
= 73 - 61 = 12

Neither Phy nor Chem
= 150 - (110 + 12)
= 150 - 122
= 28

- The class teacher has posed two questions A and B to the 160 students of her class. 95 students answered question A. 80 students answered question B and 40 students answered both the questions.

  - How many students could not answer any of the two questions?
    (A) 30 (B) 25 (C) 40 (D) 15

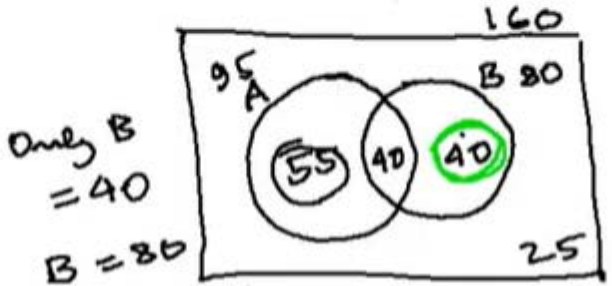
  - How many students answered only question A?
    (A) 95 (B) 60 (C) 50 (D) 55

  - How many students could not answer only one question?
    (A) 80 (B) 70 (C) 95 (D) 120

  - The number of students who answered only question B is what percentage of students who answered question B?
    (A) 50% (B) 60% (C) 25% (D) $33\frac{1}{3}$ %

• • In a class of 150 students, 110 students passed in Physics and 73 students passed in Chemistry. 61 Students passed in both Physics and Chemistry.

- How many students passed only in Physics?
  (A) 59 (B) 49
  (C) 51 (D) 12
- How many students passed in neither Physics nor Chemistry?
  (A) 28 (B) 12
  (C) 35 (D) 49
- How many students passed in at least one subject?
  (A) 150 (B) 61
  (C) 89 (D) 122



Only B
=40

B = 80

95 − 40
= 55

80 − 40
= 40

160 − (95 + 40)

160 − 135 = 25

• • The class teacher has posed two questions A and B to the 160 students of her class. 95 students answered question A, 80 students answered question B and 40 students answered both the questions.

- How many students could not answer any of the two questions?
  (A) 30 (B) 25 (C) 40 (D) 15
- How many students answered only question A?
  (A) 95 (B) 60 (C) 50 (D) 55
- How many students could not answer only one question?
  (A) 80 (B) 70 (C) 95 (D) 120

- The number of students who answered only question B is what percentage of students who answered question B?
  (A) 50% (B) 60% (C) 25% (D) $33\frac{1}{3}$ %

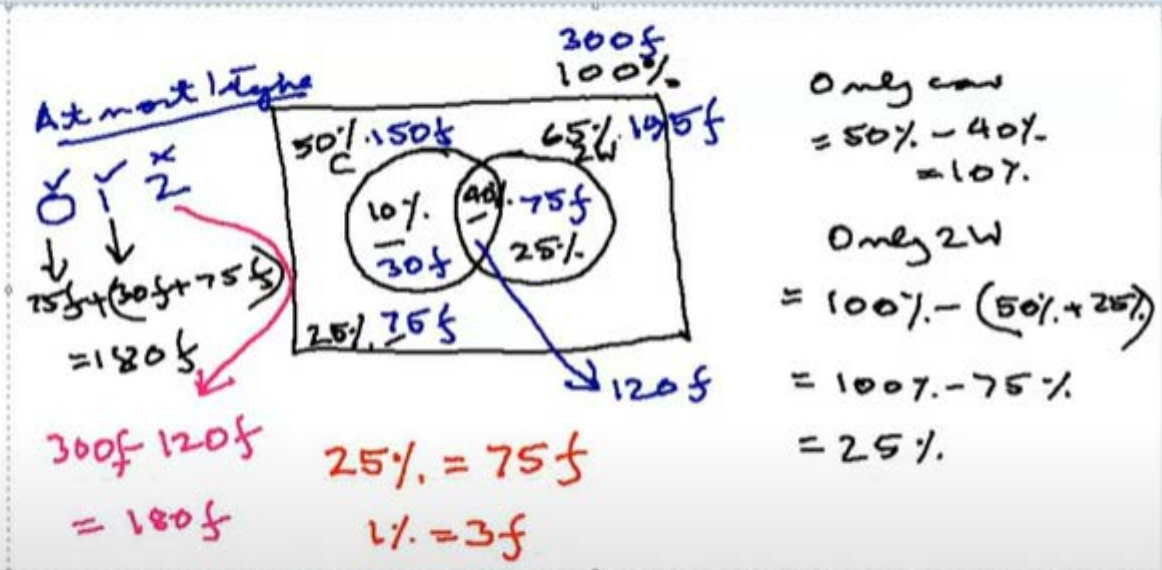
Could Answer	Only	Could not Answer
55	← A →	40
40	← B →	55
		95 ✓

●● In a colony, 50% of the families have a car, while 75 families have only two wheelers. 25% of the families have neither a car nor a two wheeler and 40% of the families have both car and two wheeler.

- How many families have only car?
  (A) 40 (B) 30 (C) 75 (D) 95
- How many families are there in the colony?
  (A) 600 (B) 200 (C) 150 (D) 300
- How many families have at most one type of vehicle?
  (A) 120 (B) 160 (C) 180 (D) 75

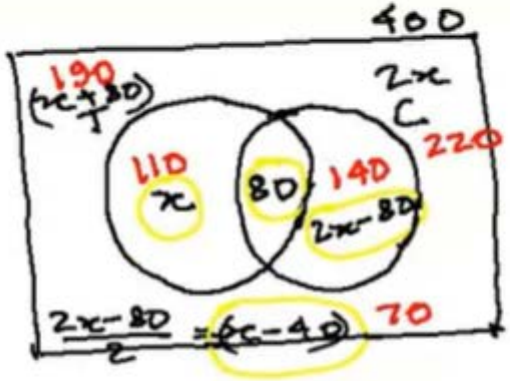
●● Among 400 delegates who attended a conference, 80 like both tea and coffee, whereas the number of delegates who like coffee is twice the number of delegates who like only tea. The number of delegates, who like neither of the beverages is half the number of delegates who like only coffee.

- How many delegates like tea?
  (A) 160 (B) 110 (C) 190 (D) 120
- How many delegates like none of the beverages?
  (A) 60 (B) 50 (C) 80 (D) 70
- How many delegates like at most one beverage?
  (A) 320 (B) 260 (C) 350 (D) 275



• • In a colony, 50% of the families have a car, while 75 families have only two wheelers. 25% of the families have neither a car nor a two wheeler and 40% of the families have both car and two wheeler.

- How many families have only car?
  (A) 40 (B) 30 (C) 75 (D) 95
- How many families are there in the colony?
  (A) 600 (B) 200 (C) 150 (D) 300
- How many families have at most one type of vehicle?
  (A) 120 (B) 160 (C) 180 (D) 75



$(x+30)+(2x-80)+(x-40)=400$

$4x-90=400$

$4x=490$

$x=110$

• • Among 400 delegates who attended a conference, 80 like both tea and coffee, whereas the number of delegates who like coffee is twice the number of delegates who like only tea. The number of delegates, who like neither of the beverages is half the number of delegates who like only coffee.

- How many delegates like tea?
  (A) 160 (B) 110 (C) 190 (D) 120
- How many delegates like none of the beverages?
  (A) 60 (B) 50 (C) 80 (D) 70
- How many delegates like at most one beverage?
  (A) 320 (B) 260 (C) 350 (D) 275

At most 1 beverage

0 ✓ 1 ✓ 2 ✗

$400-80=320$

(A) 80 (B) 70 (C) 95 (D) 120

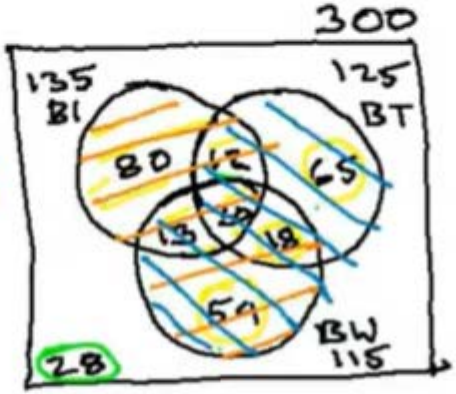
BIUBW

135 + 18 + 54 = 207

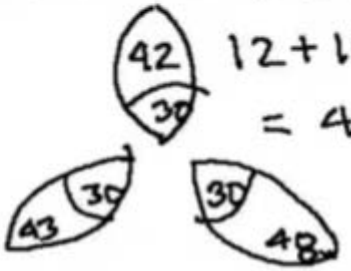
- A survey of 300 respondents showed that 135 of them read Business India, 125 read Business Today and 115 read Business World. Further, 42 of the respondents read Business India and Business Today, 48 read Business Today and Business World, 43 read Business India and Business World and 30 of the respondents read all the three magazines.
  - How many respondents read exactly one magazine?
    (A) 375 (B) 199 (C) 272 (D) 123
  - How many respondents read exactly two magazines?
    (A) 30 (B) 75 (C) 65 (D) 43
  - How many respondents read Business India or Business World?
    (A) 199 (B) 272 (C) 207 (D) 175
  - How many respondents read neither Business World nor Business Today?
    (A) 108 (B) 80 (C) 126 (D) 148

80 + 28 = 108

$(BI \cup BT)'$



80 + 65 + 54 = 189



$135 - (12 + 30 + 73)$

$= 135 - 55 = 80$

$125 - (12 + 30 + 18)$

$= 125 - 60 = 65$

$115 - (13 + 30 + 18)$

$= 115 - 61 = 54$

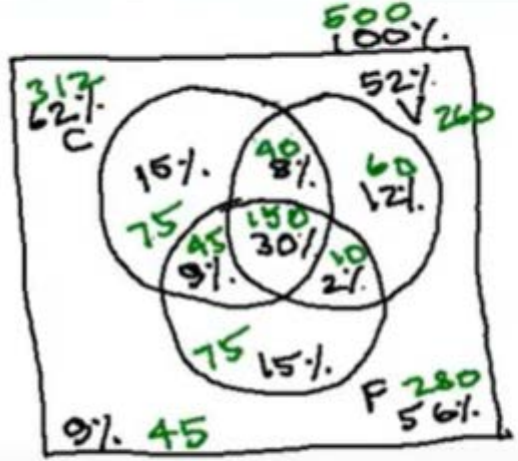
$300 - (135 + 65 + 18 + 54)$

$= 300 - 272 = 28$

(A) 320 (B) 260 (C) 350 (D) 275

- A survey was conducted among a group of players. It was found that, 62% play cricket, 52% play volleyball and 56% play football. 38% play both cricket and volleyball whereas 32% play both volleyball and football and 39% play cricket and football. 30% play all the three games and 45 people play none of the games.

  - How many players play exactly two games?
    (A) 95 (B) 105 (C) 85 (D) 160
  - What is the ratio between the number of players who play only cricket and the number of players who play only football?
    (A) 2 : 1 (B) 1 : 1 (C) 1 : 2 (D) 5 : 6
  - What percentage of the players surveyed do not play any of the games?
    (A) 10 (B) 9 (C) 15 (D) 45



62 − (8 + 30 + 9)
62 − 47 = 15

52 − (8 + 30 + 2)
52 − 40 = 12

56 − (8 + 30 + 2)
56 − 41 = 15

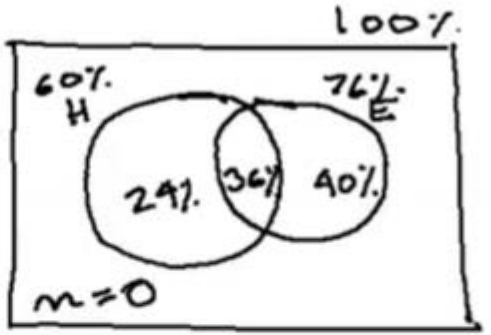
9% = 45
1% = 5

100% − (62% + 12% + 2% + 15%)

40 + 10 + 95 = 95 = 100% − 91% = 9%

• • In a community, 60% of the people know Hindi. 40% of the people who know Hindi, do not know English. What percentage of the total number of people know English, if each person of the community knows at least one of the two languages?
(A) 60% (B) 76% (C) 40% (D) 60%

• • A survey was conducted among some children to know their choice of ice cream flavours among Almond, Chocolate and Strawberry. It was found that 770 children like at most two of the three ice cream flavours and 40 children like none of the flavours. 310 children like Almond, 370 like Chocolate and 320 children like Strawberry. 760 children like at least one of the three flavours. How many children like exactly one of the three flavours?
(A) 570 (B) 460 (C) 340 (D) 550



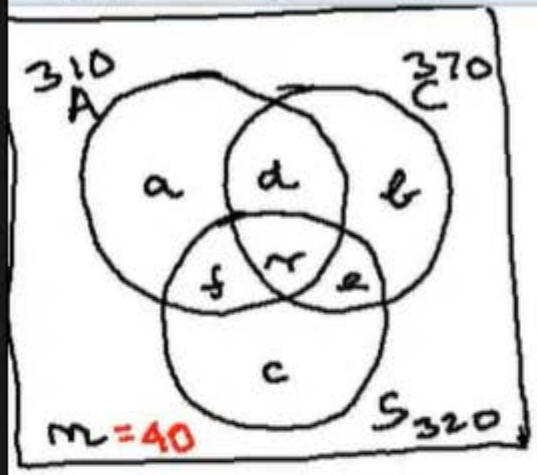
Do not know English
= 40% of 60%.

= 24%.

(a+n)
↓
=0

60 - 24 = 36%.

100% - 60% = 40%.



$(a+b+c)+(d+e+f)+n = 770$

$(a+b+c)+(d+e+f) = 730$ —— ①

$a+(d+f)+r = 310$

$b+(d+e)+r = 370$

$e+(f+e)+r = 320$

$(a+b+c)+2(d+e+f)+3r = 1000$ —— ②

$(a+b+c)+(d+e+f)+r = 760$ —— ③

③ − ① :−

$r = 30$

∴ ② :−

$(a+b+c)+2(d+e+f) = 1000-90$

$= 910$ —— ④

④ − ① :− $(d+e+f) = 180$ —— ⑤

∴ Substitute ⑤ in ①

$(a+b+c) = 730-180$

$= 550$

- What is th play only only footb (A) 2 : 1
- What perc any of the (A) 10

- Which of the following is not a rational number?
  (A) $\frac{1}{3}$ Rat
  (B) $2^{12324} - 1$ Rat
  (C) $\frac{2.437}{8.92323\ldots}$ Rat
  ✓(D) $\sqrt{2}$

- The product of two real numbers is a rational number. If one of them is a rational number, the other number is _____.
  (A) also a rational number
  (B) an irrational number
  (C) a natural number
  (D) None of these

- The sum of six natural numbers is odd. Which of the following statements is/are definitely true?
  I. The sum of all the possible products of the numbers taken two at a time is even.
  II. The product of all six numbers is odd.
  (A) Only I
  (B) Only II
  (C) Both I and II
  (D) Neither I nor II

- In typing the first 399 natural numbers using a computer keyboard, how many times are the numbered keys used?

O + O + O + O + O + E = Odd
O + O + E = E

O + O + O + E + E + E = Odd
O + E + E = O

O + E + E + E + E + E = Odd

- Which of the following is not a rational number?
  (A) $\frac{1}{3}$ Rat
  (B) $2^{12324} - 1$ Rat
  (C) $\frac{2.437}{8.92323\ldots}$ Rat
  ✓(D) $\sqrt{2}$

- The product of two real numbers is a rational number. If one of them is a rational number, the other number is _____.
  (A) also a rational number
  (B) an irrational number
  (C) a natural number
  (D) None of these

- The sum of six natural numbers is odd. Which of the following statements is/are definitely true?
  I. The sum of all the possible products of the numbers taken two at a time is even. ✓
  II. The product of all six numbers is odd. ✗
  (A) Only I
  (B) Only II
  (C) Both I and II
  (D) Neither I nor II

- In typing the first 399 natural numbers using a computer keyboard, how many times are the numbered keys used?

1 dig
$1 \sim 9 \rightarrow 9 \rightarrow 9$

2 dig
$10 \sim 99 \rightarrow 90 \rightarrow 180$

3 dig
$100 \sim 399 \rightarrow 300 \rightarrow 900$

1089 ✓