Seating Arrangement Questions for IBPS PO PRE, SBI PO PRE, SBI CLERK MAINS & IBPS CLERK MAINS

Directions: Read the given information carefully and answer the questions given beside:

In a society meeting eight persons – P, Q, R, S, T, U, V and W were seated in a straight line facing the north. They have different house numbers – 15, 28, 30, 40, 45, 65, 80 and 90 not necessarily in the same order. It is further known that:

Difference between T and P's house number is equal to the difference between Q and U's house number.
Not more than 3 persons have house number less than Q.
Not more than 2 persons have house number more than P.
T's house number was twice of V.
Q is seated to the immediate right of the person whose house number was 65.
P is seated to the immediate right of T who is 3rd to the left of one whose house number was 45.
Three persons seated to the right of V had house numbers less than him.
House numbers of R and Q together was equal to house number of V.
One whose house number was 28 was seated to the immediate left of the one whose house number was 40.
Q and U were seated at a gap of 1 person.
S and U were not seated together.

1. Who among the following was seated at the extreme left end of the row?

A. P   B. Q   C. R   D. S   E. None of these

2. Which of the following numbers can be multiplied with 3 to obtain the house no. of Q?

A. 30   B. 15   C. 10   D. 5   E. None of these

3. Who among the following has house number equal to the average of the house numbers of T and U?

A. V   B. S   C. Q   D. W   E. None of these

4. Who among the following has house number equal to the average of the house numbers of R and V?

A. P   B. U   C. W   D. Q   E. None of these

5. How many persons were seated between Q and S?

A. None   B. One   C. Two   D. Three   E. None of these

Correct Answers:

1	2	3	4	5
E	C	B	D	A

Common Explanations:

Reference:

Not more than 2 persons have house number more than P.
Not more than 3 persons have house number less than Q.
T's house number was twice of V.
House number of R and Q together was equal to house number V.
Three persons seated to the right of V had house numbers less than him.

Inference:

Here, the possible house numbers for P are 65 or 80 or 90. And the possible house numbers for Q are 15 or 28 or 30 or 40.

Similarly, the possible house numbers of V and T are 15 and 30, 40 and 80, and 45 and 90.

Here, house number 15 is not possible for V as we already know that three persons had house number less than V.

And house number 40 is also not possible for V because none of the combination of the house numbers leads to 40 and we have a hint that house number of R and Q was equal to house number V.

Thus, the only possible house number for V is 45 and the house number of T is 90.

Using the above information we can also say that the house number of R and Q can be 15 and 30 not necessarily in the same order. And the possible house number of P can be 65 or 80.

Reference:

Three persons seated to the right of V had house numbers less than him.
P is seated to the immediate right of T who is 3rd to the left of one whose house number was 45.
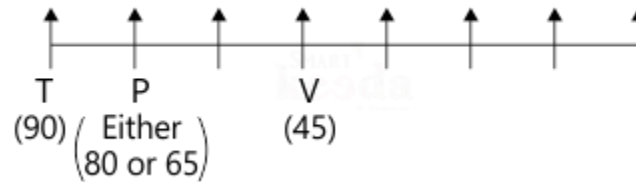
Inference:

With the first hint we can say that there were at least three persons sitting to the immediate right of V.

And with the second we can say that there are two possible scenarios in which we can fix the positions of these persons.
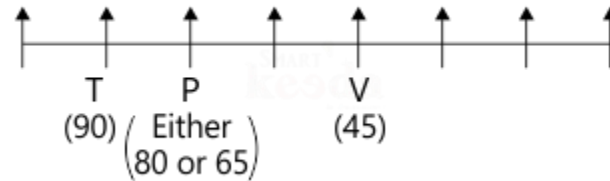
Case 1:

Case 1 :

T (90)　P (Either 80 or 65)　V (45)

Case 2:

Case 2 :

T (90)　P (Either 80 or 65)　V (45)

Reference:
Difference between T and P's house number is equal to the difference between Q and U's house number.
House number of R and Q together was equal to house number V.

Inference:
Here the difference between the house number of T and P can be 25 (when the house number of P is 65) or 10 (when the house number of P is 80)

And we know that the possible house numbers of Q are either 15 or 30.

Now, if the house number of Q is 15 then the only possible house number for U is 40 when the house number of P is 65.

And, if the house number of Q is 30 then the only possible house number for U is 40 when the house number of P is 80.

Reference:
Q was seated to the immediate right of the person whose house number was 65.
Q and U were seated at a gap of 1 person.

Inference:
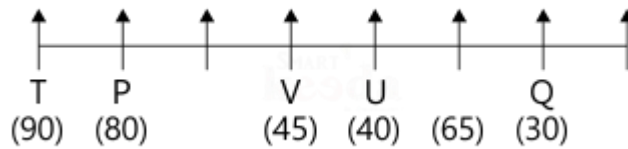Using, the above information our case 1 and case 2 can be redrawn as:

Case A :

T (90)　P (65)　Q (15)　V (45)　U (40)

Case B :

```
     ↑    ↑    ↑    ↑    ↑    ↑    ↑    ↑
  ┬──┬────┬────┬────┬────┬────┬────┬────┬
     T    P    Q    V    U
   (90)  (65) (15) (45) (40)
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Case C :

```
     ↑    ↑    ↑    ↑    ↑    ↑    ↑    ↑
  ┬──┬────┬────┬────┬────┬────┬────┬────┬
     T    P         V    Q         U
   (90)  (80)      (45) (65) (30)      (40)
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Case D :

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     ↑    ↑    ↑    ↑    ↑    ↑    ↑    ↑
  ┬──┬────┬────┬────┬────┬────┬────┬────┬
     T    P         V    U         Q
   (90)  (80)      (45) (40) (65) (30)
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Case E :

```
     ↑    ↑    ↑    ↑    ↑    ↑    ↑    ↑
  ┬──┬────┬────┬────┬────┬────┬────┬────┬
     T    P         V         U         Q
   (90)  (80)      (45)      (40) (65) (30)
```
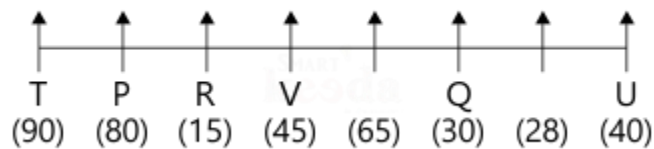
Reference:
One whose house number was 28 was seated to the immediate left of the one whose house number was 40.
S and U were not seated together.

Inference:
Here, **Case A, Case B and Case D fails** because we cannot place the person whose house number is 28 immediate to the lefty of the person whose house number is 40 in these cases.

At this point we can say that the house number of R is 15 and can fix his position as shown in the figure.

Case C :

```
     ↑    ↑    ↑    ↑    ↑    ↑    ↑    ↑
  ┬──┬────┬────┬────┬────┬────┬────┬────┬
     T    P    R    V    Q         U
   (90)  (80) (15) (45) (65) (30) (28) (40)
```

Case E :

```
     ↑    ↑    ↑    ↑    ↑    ↑    ↑    ↑
  ┬──┬────┬────┬────┬────┬────┬────┬────┬
     T    P    R    V    U         Q
   (90)  (80) (15) (45) (28) (40) (65) (30)
```
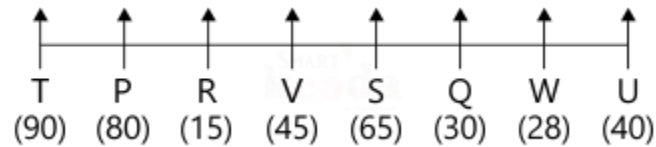
Reference:
S and U were not seated together.

Inference:
At this point we **cannot place S in Case-E** under the given conditions. So we can say that this is an invalid case.

But, with the given information we can place S and W and in our Case-C. As shown in the figure below:

Case C :

T	P	R	V	S	Q	W	U
(90)	(80)	(15)	(45)	(65)	(30)	(28)	(40)

Now, the puzzle is completed.

Answers :

1. Following the final solution we can say that T was seated at the extreme left end of the row.
    Hence, the correct answer is option E.

2. Following the final solution we can say that the house number of Q was 30 i.e. 3 × 10
    Hence, the correct answer is option C.

3. Following the final solution we can say that the house numbers of T and U were 90 and 40 respectively.
    Required Average = (90 + 40) ÷ 2 = 65
    And we know that the house number of S was 65.
    Hence, the correct answer is option B.

4. Following the final solution we can say that the house numbers of R and V were 15 and 45 respectively.
    Required Average = (15 + 45) ÷ 2 = 30
    And we know that the house number of Q was 30.
    Hence, the correct answer is option D.

5. Following the final solution we can say that no one was sitting between Q and S.
    Hence, the correct answer is option A.
    .