

## Date Interpretation Pie Chart Questions for SBI PO, IBPS PO and RBI Grade B Exams.

DI Pie Chart Quiz 35

Directions: Study the following pie charts carefully \& answer the questions given below it.

A complete work is divided into 6 parts $P, Q, R, S$ and $T$. The pie chart 1 shows the distribution of each part. The pie chart 2 shows the percentage of the $P$ part of the work can be completed by 6 individuals $A, B, C, D, E$, and F in an equal time.


1. If all the six persons work together then they can complete the whole work in 100 days. Suppose for the first 50 days all work together but after 50 days $A, C$, and $E$ left the work then in how many days the remaining work will be completed?
A. $85 \frac{25}{87}$ days
B. $84 \frac{25}{87}$ days
C. $83 \frac{55}{87}$ days
D. $85 \frac{25}{87}$ days
E. None of these
2. If all the six persons started working together but they were divided into two parts. A, $B$, and C work together to complete Q part of the work whereas D, E, and F work together to complete $\mathbf{R}$ part of the work. Then approximately in how many days they will complete Q and R parts of the whole work? (it is given that C alone can complete $Q$ and $R$ parts of the whole work in 250 days)
A. 44.5 days
B. 38.5 days
C. 49.5 days
D. 47.5 days
E. 51.5 days
3. Suppose, all of them started working together to complete the whole work but after 10 days from starting A left the work permanently, after next 10 days B left the work permanently, again after next 10 days $C$ left the work permanently. After C left D, E, and F work till the completion of work. In this way, the work is completed in 130 days. Find the number of days A would have taken if he had worked alone?
A. $435 \frac{2}{3}$ days
B. $416 \frac{2}{3}$ days
C. $430 \frac{2}{3}$ days
D. $426 \frac{1}{3}$ days
E. None of these
4. If all of the six persons work together then they can complete the P part of the whole work in 125 days. Find the difference between the number of days taken by them if $A$, $B$, and $C$ work together to complete the entire work and $D, E$, and $F$ work together to complete the entire work? (approximately)
A. 399 days
B. 497 days
C. 427 days
D. 543 days
E. 513 days
5. What part of the work is completed by $A$ if he works alone for the same number of days taken by B, C, D, E and F together to complete the whole work?
A. $32.32 \%$
B. $27.29 \%$
C. $25.21 \%$
D. $29.41 \%$
E. 31.43\%

Correct Answers:

| 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- |
| A | A | C | B | C |

## Explanation:

1. From the chart 2 , The time taken by $A$ to complete $10 \%$ of $P=$ The time taken by $B$ to complete $20 \%$ of $P=$ The time taken by $C$ to complete $25 \%$ of $P=$ The time taken by $D$ to complete $5 \%$ of $P=$ The time taken by E to complete $15 \%$ of $\mathrm{P}=$ The time taken by F to complete $25 \%$ of P

The ratio of the work, $=A: B: C: D: E: F=10 \%$ of $p: 20 \%$ of $p: 25 \%$ of $p: 5 \%$ of $p: 15 \%$ of $p: 25 \%$ of $p$ = 2: 4:5:1:3:5

Therefore, the ratio of there efficiency $=30: 15: 12: 60: 20: 12$
The total efficiency when all the six persons work together $=30 x+15 x+12 x+60 x+20 x+12 x=149 x$
According to the question, when all six persons work together then they can complete the whole work in 100 days therefore let the total work $=100 \times 149 x$ units

In 50 days, the total units of work done $=149 x \times 50$ units
Remaining work $=149 \mathrm{x} \times 50$ units
Now, only B, D, and F work together to complete $149 x \times 40$ units of work
The efficiency of $B+D+F=15 X+60 X+12 X=87 X$
The total number of days $B+D+F$ will take to do
$149 x \times 50$ units of work $=\frac{149 x \times 50}{87 x}=\frac{149 \times 50}{87}$
$=\frac{7450}{87}$ days $=85 \frac{55}{87}$ days

Hence, option A is correct.

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2. The efficiency of $C=12 x$

From the question, C alone Q and R part of the whole work in 250 days, $\mathrm{Q}+\mathrm{R}$ part of the whole work $=$ $30 \%+20 \%$ of the whole work $=50 \%$ of the whole work in 250 days

Therefore, C alone can do the whole work in 500 days
Therefore, The total work $=12 x \times 500$ units
$Q$ parts $=30 \%$ of $12 x \times 500=1800 x$
Efficiency of $A+B+C=30 x+15 x+12 x=57 x$
The total number of days taken by A + B + C TO DO 1800x units of work
$=\frac{1800 x}{57 x}=$ approximately 31.5 days

R parts $=20 \%$ of $12 x \times 500=1200 x$
The efficiency of $D+E+F=60 x+20 x+12 x=92 x$

The total number of days taken by D + E + F to do 1200x units of work
$=\frac{1200 x}{92 x}=13$ days

The total number of days taken by them to do $Q$ and $R$ parts of the whole work $=31.5+13=44.5$ days Hence, option A is correct.
3. In the first 10 days, the total units of work done by $A+B+C+D+E+F=(30 x+15 x+12 x+60 x+20 x+$ $12 \mathrm{x}) \times 10=149 \mathrm{x} \times 10$ units

In the next 10 days the total units of work done by $B+C+D+E+F=(15 X+12 X+60 X+20 X+12 X) \times$ $10=119 x \times 10$ UNITS

Again, in the next 10 days the total units of work done by $C+D+E+F=(12 x+60 x+20 x+12 x) \times 10=$ $104 \mathrm{x} \times 10$ units

Now onwards, only $\mathrm{D}+\mathrm{E}+\mathrm{F}$ work till the last day therefore, the total units of work done by $\mathrm{D}+\mathrm{E}+\mathrm{F}$ in the next $(130-30)=100$ days $=(60 x+20 x+12 x) \times 100=92 x \times 100$

Total units of work $=1490 x+1190 x+1040 x+9200 x=12920 x$ units
The efficiency of $A=30 x$
Therefore, the total time taken by A alone to do 12920x units of work
$=\frac{12920 x}{30 x}=\frac{1292}{3}$ days $=430 \frac{2}{3}$ days

Hence, option C is correct.
4. $\quad$ P parts of the whole work $=25 \%$ of the whole work they all together can complete in 125 days therefore $100 \%$ of the whole work $=$ the whole work they can complete in $125 \times 4=500$ days

The total units of work $=(30 x+15 x+12 x+60 x+20 x+12 x) \times 500=149 x \times 500$ units
The number of days taken by $A+B+C$ together to do $149 x \times 500$ units of work $=149 x \times 500 / 57 x$ days $=$ 1307 days approximately

The number of days taken by $D+E+F$ together to do $149 x \times 500$ units of work $=149 x \times 500 / 92 x$ days $=$ $809.78=810$ days approximately

The required difference $=1307-810=497$ days

Hence, option B is correct.
5. The efficiency of $A=30 x$

And the efficiency of $B+C+D+E+F=119 x$

The reqd. $\%=\frac{30 x \times 100}{119 x}=25.21 \%$

Hence, option C is correct.

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