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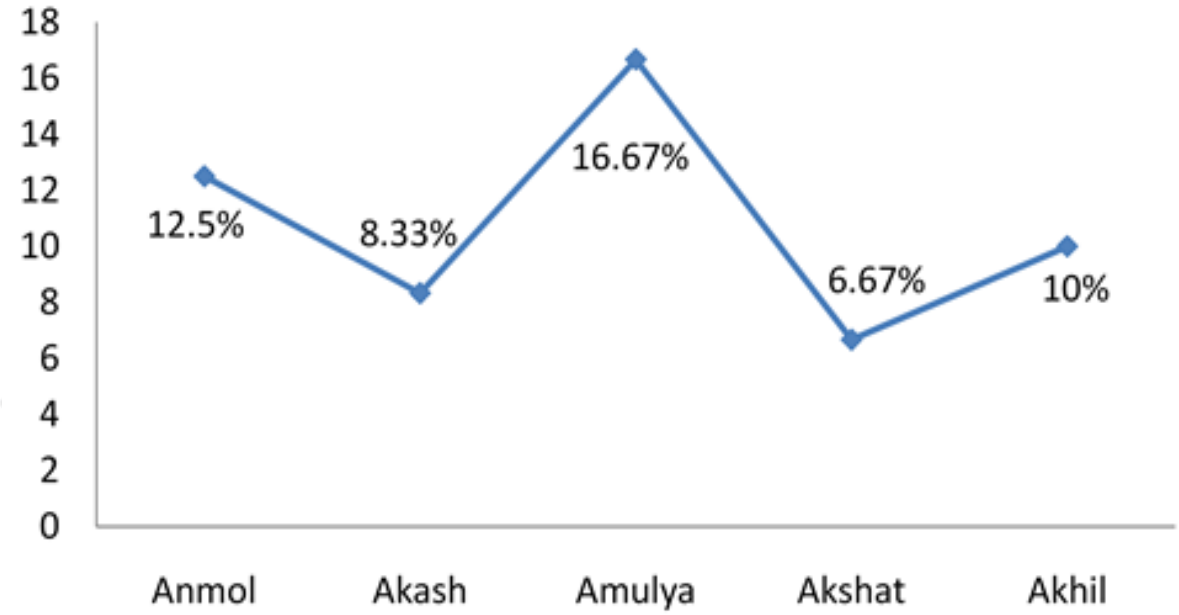
The Question Bank

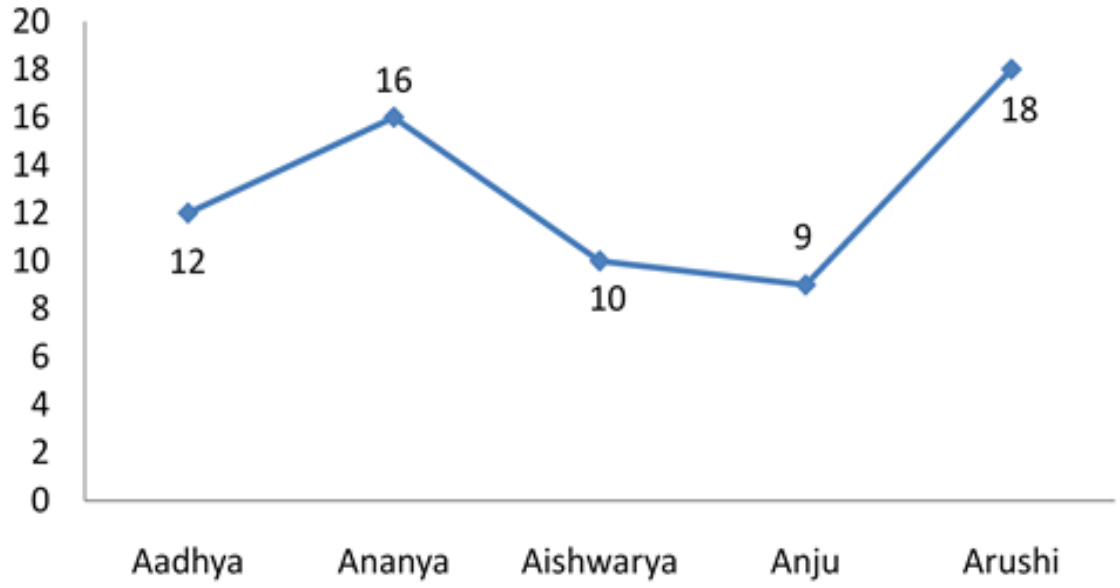
DI Line Chart Questions for IBPS Clerk Mains, SBI Clerk Mains, IBPS PO Pre and SBI PO Pre Exams.

DI Line Chart No 39

Directions : Study the following line chart carefully and answer the questions given beside.

The 1st graph shows the percentage efficiency of different boys and the 2nd one shows the number of days taken by different girls to do a certain piece of work.





1. If Amulya starts the work alone and after 2 days Aadhya joins him and after 1 day later Aarushi joins them, then, in how many days will the whole work be completed?

A. 4 days B. $4\frac{4}{11}$ days C. $5\frac{6}{11}$ days D. 6 days E. None of these

2. Akshat's efficiency is approximately how much percentage less than Anju's efficiency?

A. 46% B. 50% C. 40% D. 60% E. 65%

3. Akshat started the work alone but after 6 days he found that he had done only 30% of the work. If he wants to complete the work on time, by how much (percentage) should he increase his efficiency?

A. $16\frac{2}{3}\%$ B. 12% C. $37\frac{1}{3}\%$ D. 20% E. None of these

4. Anmol and Akhil start working together and after 3 days Anmol leaves the work and Ananya joins him and completes the work. If instead of Ananya, Aishwarya would have joined, find the difference between the number of days taken in both cases.

A. $\frac{1}{5}$ B. $\frac{3}{8}$ C. 1 D. $\frac{1}{2}$ E. None of these

5. What is the ratio of the number of days required if Aishwarya and Anmol work together to the number of days required if Akash and Arushi work together?

A. 81 : 50 B. 21 : 44 C. 40 : 63 D. 2 : 1 E. None of these

Correct Answers:

1	2	3	4	5
B	C	A	B	E

Explanations :

1. Anmol's efficiency is 12.5% so he can do the work in 100/ 12.5 = 8 days
Akash's efficiency is 8.33% so he can do the work in 100/ 8.33 = 12 days
Amulya's efficiency is 16.16% so he can do the work in 100/ 16.67 = 6 days
Akshat's efficiency is 6.67% so he can do the work in 100/ 6.67 = 15 days
Akhil's efficiency is 10% so he can do the work in 100/10 = 10 days

According to the question

Let the whole work will be completed in x days

$$\frac{x}{6}+\frac{(x-2)}{12}+\frac{(x-3)}{18}=1$$

$$\frac{(6x+3x-6+2x-6)}{36}=1$$

$11x - 12 = 36$
$11x = 36 + 12$
$11x = 48$

$$x=\frac{48}{11}=4\frac{4}{11}\text{ days}$$

Hence, option B is correct.

2. Anmol's efficiency is 12.5% so he can do the work in 100/ 12.5 = 8 days
Akash's efficiency is 8.33% so he can do the work in 100/ 8.33 = 12 days
Amulya's efficiency is 12.5% so he can do the work in 100/ 16.67 = 6 days
Akshat's efficiency is 6.67% so he can do the work in 100/ 6.67 = 15 days
Akhil's efficiency is 10% so he can do the work in 100/ 10 = 10 days

$$\text{Akshat's efficiency} = \frac{1}{15}$$

$$\text{Anju's efficiency} = \frac{1}{9}$$

$$\text{less \%} = \frac{\left(\frac{1}{9}-\frac{1}{15}\right)}{\frac{1}{9}}\times 100$$

$$=\frac{6}{135}\times 9\times 100 = 40\%$$

Hence, option C is correct.

3. Anmol's efficiency is 12.5% so he can do the work in 100/ 12.5 = 8 days

Akash's efficiency is 8.33% so he can do the work in 100/ 8.33 = 12 days
Amulya's efficiency is 16.67% so he can do the work in 100/ 16.67 = 6 days
Akshat's efficiency is 6.67% so he can do the work in 100/ 6.67 = 15 days
Akhil's efficiency is 10% so he can do the work in 100/ 10 = 10 days
Let total work = 90

1 day's work = $\frac{90}{15} = 6$

6 day's work = 6 × 6 = 36
But he did = 90 × 30% = 27
In the remaining days (15 – 6) = 9 days he needs to complete (90 – 27) = 63 work

1 day's work = $\frac{63}{9} = 7$

Increased efficiency = $\frac{(7-6)}{6} \times 100$

$= 16\frac{2}{3}\%$

Hence, option A is correct.

4. Anmol's efficiency is 12.5% so he can do the work in 100/ 12.5 = 8 days
Akash's efficiency is 8.33% so he can do the work in 100/ 8.33 = 12 days
Amulya's efficiency is 16.67% so he can do the work in 100/ 16.67 = 6 days
Akshat's efficiency is 6.67% so he can do the work in 100/ 6.67 = 15 days
Akhil's efficiency is 10% so he can do the work in 100/ 10 = 10 days

Anmol's and Akhil's 1 day work = $\frac{1}{8} + \frac{1}{10}$

Anmol's and Akhil's 3 day work = $\left(\frac{1}{8} + \frac{1}{10}\right) \times 3$

$= \frac{(5+4)}{40} \times 3 = \frac{27}{40}$

Remaining work = $1 - \frac{27}{40} = \frac{13}{40}$

Ananya's and Akhil's 1 day work = $\frac{1}{16} + \frac{1}{10}$

Time to complete the work = $\frac{13}{40} \div \left(\frac{1}{16} + \frac{1}{10}\right)$

$= \frac{13}{40} \div \frac{13}{80} = 2$ days

Instead of Ananya, Aishwariya had joined,
Aishwariya's and Akhil's 1 day work = $\frac{1}{\quad} + \frac{1}{\quad}$

10 10

Time to complete the work = $\frac{13}{40} \div \left(\frac{1}{10} + \frac{1}{10}\right)$

$= \frac{13}{40} \div \frac{1}{5} = \frac{13}{8}$days

Difference = $2 - \frac{13}{8} = \frac{3}{8}$

Hence, option B is correct.

5. Anmol's efficiency is 12.5% so he can do the work in 100/ 12.5 = 8 days
Akash's efficiency is 8.33% so he can do the work in 100/ 8.33 = 12 days
Amulya's efficiency is 16.67% so he can do the work in 100/ 16.67 = 6 days
Akshat's efficiency is 6.67% so he can do the work in 100/ 6.67 = 15 days
Akhil's efficiency is 10% so he can do the work in 100/ 10 = 10 days

Aishwariya and Anmol can do the work = $\frac{1}{\frac{1}{10} + \frac{1}{8}}$

$= \frac{9}{(9/40)} = \frac{40}{9}$days

Akash and Arushi can do the work = $\frac{1}{\frac{1}{18} + \frac{1}{12}}$

$= \frac{1}{(5/36)} = \frac{36}{5}$days

Ratio = $\frac{40}{9} : \frac{36}{5}$ = 50 : 81

Hence, option E is correct.