THE QUESTION | TIME AND WORK

A man completes 7/8 of a job in 21 days. How many more days will it take him to finish the job if quantum of work is further increased by 50%?

Time and Work | Changed Workload | Hidden Trap: forgetting the work already done

(a) 24
24 days finish a full job, but only 5/8 of a job is left.

(b) 21
21 days at his rate finish 7/8 of a job, which is more than the 5/8 left.

(c) 18
18 days finish only 3/4 of a job at 1/24 per day, which is more than the 5/8 left.

(d) 15 ✓
5/8 of a job at 1/24 per day takes 15 days.

CRACK THE HIDDEN RULE

Convert everything to jobs and days. If 7/8 of a job takes 21 days, a full job takes 21 / (7/8) = 24 days.

The new total is 1.5 jobs. Subtract the work already done, and divide what is left by his daily rate.

Days left = (new total - work done) x days per job

RATE	NEW TOTAL	WORK LEFT
1/24 job per day	3/2 job	3/2 - 7/8 = 5/8

WORKED IN 3 CLEAN STEPS

1 Find his rate
7/8 of a job in 21 days, so one full job takes 24 days and the rate is 1/24 per day.

2 Find the work left
The total is now 3/2 jobs. He has done 7/8. Left = 12/8 - 7/8 = 5/8 of a job.

3 Convert to days
5/8 x 24 = 15 days.

ANSWER: (d) 15

THE 3-SECOND SHORTCUT

Full job = 24 days. New work = 1.5 x 24 = 36 days in all. Already used 21 days, so 36 - 21 = 15 days more.

full job = 24 days | scale by 1.5 | subtract days used

→ Check: 36 - 21 = 15, the same as 5/8 x 24.
→ Answering 24 means ignoring the work already done.

WHY ASPIRANTS LOSE MARKS HERE

1. **Answering 24.** That is one full old job, not what is left.
2. **Adding 50% to 24 only.** 36 days is the total, and 21 are already used.
3. **Subtracting 7/8 from 1 instead of 3/2.** The new total is 1.5 jobs, not 1.

ATTEMPT	FLAG	SKIP
~40 sec	if fractions slow you	never
Full job in days, scale, subtract.	Use the 24 and 36 days route.	A standard, dependable scorer.

THE ONE-LINE TAKEAWAY

Convert to a full job in days, scale it for the new load, and subtract the days already worked.

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