

2025 August AMC 8 Week 2 Day 3 - Work and Efficiency Problems

1 In a factory production team working on a batch of parts, if each worker stays at their original position, the task can be completed in 9 hours. If workers *A* and *B* exchange positions while the efficiency of the other workers remains unchanged, the task can be completed 1 hour earlier. If workers *C* and *D* exchange positions while the efficiency of the other workers remains unchanged, the task can also be completed 1 hour earlier. If *A* and *B* exchange positions and *C* and *D* also exchange positions at the same time, with the efficiency of the other workers unchanged, how many minutes earlier can the task be completed?

- A. 90 B. 100 C. 105 D. 108 E. 115

2 Two projects of equal workload are completed separately by Team 1 and Team 2. On sunny days, Team 1 can finish a project in 12 days, and Team 2 can finish a project in 15 days. On rainy days, Team 1's work efficiency decreases by 40%, and Team 2's work efficiency decreases by 10%. In the end, the two teams finish their projects at the same time.

What is the difference between the number of sunny days and rainy days during the work period?

- A. 0 B. 1 C. 2 D. 3 E. 4

3 Addy and Brandon are working together on a project. The original plan was for them to work alternately, one person per day, in the order Addy first, then Brandon, and so on, and the work would be finished in an exact whole number of days. If they instead worked in the order Brandon first, then Addy, alternating one day each, it would take half a day longer than the original plan. Now, if Addy and Brandon work together every day, they can finish the project in $8\frac{2}{3}$ days. If they follow the original plan, how many days will it take to complete the entire task?

- A. 15 B. 16 C. 17 D. 18 E. 19

- 4 For a certain project, Teams **A** and **B** working together can complete $\frac{9}{40}$ of the entire project per day. If Team **A** works alone for 3 days and then Team **B** works alone for 5 days, they can complete $\frac{7}{8}$ of the entire project. If Team **B** works alone, how many days will it take to complete the project?

A. 25 B. 10 C. 15 D. 30 E. 20

- 5 In a certain place, there are two ponds, Pond **A** and Pond **B**. Due to planned construction work, the water in both ponds must be pumped out, even during the rainy season. Pond **A** has an area of 2 acres. Using 3 water pumps, it can be emptied in 2 days; if 2 water pumps are used instead, it will take 4 days to empty it. Pond **B** has an area 3 times that of Pond **A**. If it is to be emptied in 6 days, how many water pumps will be needed?

A. 1 B. 2 C. 3 D. 5 E. 10