

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 1 - OCTOBER 2016
ROUND 3 ALG 1: LINEAR EQUATIONS

ANSWERS

A) _____

B) _____ mph

C) (_____ , _____)

A) The sum of five consecutive integers n_1, n_2, n_3, n_4, n_5 , where $n_1 < n_2 < n_3 < n_4 < n_5$ is 95.
Compute n_4 .

B) At 50 mph it takes 15 minutes less time to reach my destination than it would if I travelled only 40 mph. How fast must I travel (in miles per hour) to reach the same destination in 40 minutes?

C) The Chicago White Sox baseball team hired a new coach to help improve their dreadful base stealing statistics. To date, as a team, they have succeeded in stealing 27 times and failed x times. The management's minimum acceptable success rate is 80%. Suppose the team attempts 50 more steals by the All-star break and they get caught stealing k times. Determine the ordered pair (x, k) , where x has a maximum value, but the team's base stealing success rate is exactly 80%.