

Turkey Junior National Olympiad 2001

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- 1 Let $ABCD$ be an inscribed trapezoid such that the sides $[AB]$ and $[CD]$ are parallel. If $m(\widehat{AOD}) = 60^\circ$ and the altitude of the trapezoid is 10, what is the area of the trapezoid?

- 2 Let $N > 1$ be an integer. We are adding all remainders when we divide N by all positive integers less than N . If this sum is less than N , find all possible values of N .

- 3 11 carriers will carry 270 kg of melons at one step where each melons weighs at most 7 kg. Each carrier can carry at most 30 kg in one step. Show that it is possible to carry all the melons at one step whatever a melon weighs.
