

## Calculation of a players points in the Daily European

$$\text{players DE points} = \frac{\sum_{\text{numProvs}} 16 \cdot \left(\frac{\text{province morale}}{100}\right) - 4 + \text{numUpg} \cdot 0.5 + \text{moralBonus}}{\sum_{\text{numPlayers}} \sum_{\text{numProvs}} 16 \cdot \left(\frac{\text{province morale}}{100}\right) - 4 + \text{numUpg} \cdot 0.5 + \text{moralBonus}} \cdot 2000$$

where

$$\begin{aligned} \text{numProvs} &= \text{total number of provinces a player owns} \\ \text{numPlayers} &= \text{total number of players in the game including NPCs} \\ \text{numUpg} &= \text{total number of upgrades a player built} \\ \text{moralBonus} &= \begin{cases} 0 & \text{if province morale} < 99 \\ 6 & \text{if province morale} \geq 99 \end{cases} \end{aligned}$$

Some further explanations:

$16 \cdot \left(\frac{\text{province morale}}{100}\right) - 4$	The points a province gives scales linearly with the moral. Below 25% morale, this part of the equations gives negative points.
$\text{numUpg} \cdot 0.5$	To reward players with a strong economy, every upgrade built increases the points.
$\text{moralBonus}$	To reward high moral and with it the economical aspect of the game, provinces with 99% moral and above give extra points.
$\sum_{\text{numPlayers}} \cdot 2000$	This normalizes the points so a player that has the necessary 1000 points for winning, has exactly half of all points available in the round.