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by parmenides51

1   268 numbers are written around a circle. The 17th number is 3, the 83rd is 4 and the 144th is 9. The sum of every 20 consecutive numbers is 72. Find the 210th number.

2 A, B, C can walk at 5 km/hr. They have a car that can accomodate any two of them whch travels at 50 km/hr. Can they reach a point 62 km away in less than 3 hrs?

3 C is the circle center $(0, 1)$, radius 1. P is the parabola $y = ax^2$. They meet at $(0, 0)$. For what values of a do they meet at another point or points?

4   For which integers $n \geq 8$ is $n^{\frac{1}{n-7}}$ an integer?

5   The reals a, b satisfy
$$\begin{cases} a^3 - 3a^2 + 5a - 17 = 0 \\ b^3 - 3b^2 + 5b + 11 = 0. \end{cases}$$

Find $a + b$.

6   A tetrahedron has five edges of length 3 and circumradius 2. What is the length of the sixth edge?