

MATHSCI Problems

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1. Suppose x_1 and x_2 are the roots of

$$x^2 + x - 7 = 0.$$

Without solving for the roots, find

- (a) $x_1^2 + x_2^2$.
- (b) $x_1^3 + x_2^3$.
- (c) $x_1^4 + x_2^4$.

Hint. It's possible to find sums and products of the roots without finding the roots themselves.

2. What is the difference between boiling and evaporation? Think about the similarities and differences. Focus on the essential features of both. Make a distinction between what is essential and what is not essential.