

History of Mathematical Ideas

Quiz 8

Name: _____

You have 10 minutes to complete this quiz. If you have a question raise your hand and remain seated. In order to receive full credit your answer must be **complete**, **legible** and **correct**. Show your work, and give adequate explanations.

1. Define *root of unity*. Give three examples.

A root of unity is a root of $x^n - 1 = 0$ for some n .

Three examples are $1, -1, i$.

2. Write down the elementary symmetric polynomials in three variables.

$$s_1 = x + y + z$$

$$s_2 = xy + xz + yz$$

$$s_3 = xyz$$