

Problem Set 2

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I SAKURAI 1.5

It's a rotation, of course it's invariant.

$$a'_1 = a_1 \cos \phi + a_2 \sin \phi. \quad (\text{I.1})$$

$$a'_2 = a_2 \cos \phi - a_1 \sin \phi. \quad (\text{I.2})$$

$$a'_3 = a_3. \quad (\text{I.3})$$

This is a rotation of the vector $a = a^k \sigma_k$ through an angle of ϕ in the xy plane ($\sigma_1 \sigma_2$ plane).

II SAKURAI 1.14

III SAKURAI 1.15

IV SAKURAI 1.21

V SAKURAI 1.25