

Homework 4: Induction in Arithmetic

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Problem 1.

Show that $4^n + 15n - 1$ is divisible by 3 for any positive integer n .

Problem 2.

Kiselev 272, p. 101.

Problem 3.

Let ABC be a triangle. The tangent at A to the circumcircle of $\triangle ABC$ intersects the extension of the side BC beyond B at point K . Given that $KB = AB$ show that $KA = AC$.