

ABSTRACT. We prove that Thompson's group $F(n)$ is not minimally almost convex with respect to the standard finite generating set. A group G with Cayley graph Γ is not minimally almost convex if for arbitrarily large values of m there exist elements $g, h \in B_m$ such that $d_\Gamma(g, h) = 2$ and $d_{B_m}(g, h) = 2m$. (Here B_m is the ball of radius m centered at the identity.) We use tree-pair diagrams to represent elements of $F(n)$ and then use Fordham's metric to calculate geodesic length of elements of $F(n)$. Cleary and Taback have shown that $F(2)$ is not almost convex and Belk and Bux have shown that $F(2)$ is not minimally almost convex; we generalize these results to show that $F(n)$ is not minimally almost convex for all $n \in \{2, 3, 4, \dots\}$.