1077-11-781 George W Grossman* (gross1gw@cmich.edu), Pearce Hall 217, Department of Mathematics, Central Michigan University, Mount Pleasant, MI 48859, and Yifan Zhang (zhang5y@cmich.edu), Depatment of Mathematics, Central Michigan University, Mount Pleasant, MI 48859. Diophantine triples and quadruples.

In this paper, we give the sufficient and necessary conditions, given integers a, b and c, that there exists integers n, α , β , γ such that $ab + n = \alpha^2$, $ac + n = \beta^2$ and $bc + n = \gamma^2$. The triple (a, b, c) having this property is called a Diophantine triple with property D(n). Similarly, this definition can be extended for the quadruple (a, b, c, d). We will also discuss the existence of some special Diophantine triples and quadruples. (Received September 12, 2011)