

Maths Circle Explorations: Session 7

TIFR, Mumbai

21st January 2022

Problem 3

Two brothers sold a herd of sheep. Each sheep sold for as many rupees as the number of sheep originally in the herd. The money was then divided in the following manner. First the older brother took 10 rupees, then the younger brother took 10 rupees, then the older brother took another 10 rupees, and so on. At the end of the division the younger brother, whose turn it was, found that there were fewer than 10 rupees left, so he took what remained. To make the division fair, the older brother gave the younger his pen- knife, which was worth an integer number of rupees. How much was the penknife worth ?