

### Exercise 3 – Monotonic Squares

1) Two infinite families of increasing squares are :

a)  $25=5^2 < 1225=35^2 < 112225=335^2 < 11122225=3335^2$  , etc.

b)  $49=7^2 < 4489=67^2 < 444889=667^2 < 44448889=6667^2$  , etc.

2) Yes. An infinite family of decreasing squares is :

$$100=10^2 < 10000=100^2 < 1000000=1000^2 \text{ , etc.}$$

More generally we can form an infinite family of decreasing squares with any decreasing squares, adding 0 at the end