

January 10th

$$3^1 = 3$$

$$3^2 = 9$$

$$3^3 = 27$$

$$3^4 = 81$$

$$3^5 = 243$$

So the units column is in sequence 3, 9, 7, 1, 3, 9, 7, 1,.....

214 is even but not a multiple of 4, so must have the same units digit as 3^2

So $3^{214} = \dots\dots 9$

Therefore the remainder is 4