

**Answer on Question #55688 – Math – Calculus**

$$\lim_{x \rightarrow 1} (1 + x + x^2 + \dots + x^{m-1})$$

**Solution**

It is known that  $\lim_{x \rightarrow 1} x^n = 1$ , where  $n$  is integer.

Then

$$\lim_{x \rightarrow 1} (1 + x + x^2 + \dots + x^{m-1}) = \lim_{x \rightarrow 1} (x^0 + x^1 + x^2 + \dots + x^{m-1}) = \underbrace{1 + 1 + 1 + \dots + 1}_m = 1 \cdot m = m.$$

**Answer:**  $m$ .