SUGGESTED WORDINGS OF THE REQUIRED JUSTIFICATION

for Concluding C or D for a GEOMETRIC SERIES

Whenever you conclude that a Geometric Series is CONVERGENT,

you must write a justification as clear and complete as the following:

"The (GEOMETRIC) SERIES $\sum_{n=1}^{\infty} a_n$ is CONVERGENT
because it is a GEOMETRIC series
with COMMON RATIO $r = k$ and $-1 < k < 1$." — **SUGGESTED WORDING**

For example, the series $\sum_{n=3}^{\infty} 6\left(\frac{1}{5}\right)^n$ is a geometric series with common ratio $r = \frac{1}{5}$ and first term $= \frac{6}{625}$
.

Since the common ratio r above is strictly between -1 and 1, the geometric series is a convergent series.

When making this conclusion, you must write a justification as clear and complete as the following:

"The SERIES $\sum_{n=3}^{\infty} 6\left(\frac{1}{5}\right)^n$ is CONVERGENT because it is a GEOMETRIC series
with COMMON RATIO $r = \frac{1}{5}$ and $-1 < \frac{1}{5} < 1$." — **SUGGESTED WORDING**

Similarly, whenever you conclude that a Geometric Series is DIVERGENT,

you must write a justification as clear and complete as the following:

"The (GEOMETRIC) SERIES $\sum_{n=1}^{\infty} a_n$ is DIVERGENT
because it is a GEOMETRIC series
with COMMON RATIO $r = k$ and $|k| \geq 1$." — **SUGGESTED WORDING**