

If x is positive, the first negative term in the expansion of $(1+x)^{27/5}$ is ($|x| < 1$)

SOLUTION: T_{r+1} in $(1+x)^n$ is

$$\Rightarrow \frac{n(n-1)(n-2)\dots(n-r+1)x^r}{r!}$$

for first -ve term.

$$(n-r+1) < 0$$

$$\Rightarrow \frac{27}{5} - r + 1 < 0$$

$$\Rightarrow r > \frac{32}{5}$$

thus, 1st -ve term occurs when $r=7$.