

**Prova libera n. 4 - Soluzioni**

1.  $10^{300} < 2^{1000} < 1000!$

2.  $z \in \mathbf{R}^+$

3.  $\arctan x$

4.  $(2x)^x (1 + \log(2x))$

5.  $y = \frac{2}{3}x + \log 3$

6.  $x^3|x|, \quad x = \arctan x$

7.  $] -\infty, 0] \cup ]1, +\infty[$

8.  $] -\infty, \log 3]$

9.  $4x - \frac{8}{3}x^3 + O(x^5)$

10.  $(1 + a)x + ax^2 + O(x^3)$