

### Prova libera n. 5 - Soluzioni

1.  $(1 + x^2) \arctan x - x$
2.  $\frac{1}{2}$
3.  $\frac{2}{3}(2 - \sqrt{2})$
4.  $1 + 2x + \frac{1}{2}x^2 - \frac{4}{3}x^3 - \frac{19}{24}x^4 + O(x^5)$
5.  $-2x + x^2 - \frac{1}{3}x^3 + O(x^4)$
6.  $\frac{x^2 - 1}{2} \log \left( \frac{1 - x}{1 + x} \right) - x$
7.  $\log \frac{17 + 12\sqrt{2}}{32}$
8.  $\frac{x^2}{2} - \log |x| - \frac{1}{x} - \arctan x$
9.  $\frac{3 - e}{2}$
10.  $1 - \frac{\sqrt{3}}{2} + \frac{2 - \sqrt{3}}{3}\pi$