

#### R14.6

	$O(n)$	$O(n^2)$	$O(n^3)$	$O(n(\log(n)))$	$O(2^n)$
1,000	5	5	5	5	5
2,000	10	20	40	11	$2^{(1000)} \times 5$
3,000	15	45	135	17.35	$2^{(2000)} \times 5$
10,000	50	500	5,000	66.65	$2^{(9000)} \times 5$

#### R14.7

Sort the following growth rates from slowest to fastest growth.

##### **Slowest**

$O(\log(n))$   
 $O(\sqrt{n})$   
 $O(n^{\log(n)})$   
 $O(n \log n)$   
 $O(n)$   
 $O(n \sqrt{n})$   
 $O(n^2 \log(n))$   
 $O(2^n)$   
 $O(n^3)$   
 $O(n^n)$

##### **Fastest**