Practice with Asymptotic Analysis

In each of the following graphs, the dotted lines represented the runtimes for different inputs to an algorithm. The thick solid line is some function $g(n)$.

For each of the following statements, choose the graph(s) that accurately depict the statement.

1. The worst case runtime for my algorithm is $O(g(n))$.

2. The worst case runtime for my algorithm is $\Omega(g(n))$.

3. The best case runtime for my algorithm is $O(g(n))$.

4. The best case runtime for my algorithm is $\Omega(g(n))$.

5. Every input to my algorithm requires at least time proportional to $g(n)$.

6. There’s some input to my algorithm that takes at least time proportional to $g(n)$. 