Exercise: Asymptotic Notation Proof

1. $3n^2 + 10n\log_2 n = O(n\log_2 n)$
2. $3n^2 + 10n\log_2 n = \Omega(n^2)$
3. $3n^2 + 10n\log_2 n = \Theta(n^2)$
4. $n\log_2 n + n/2 = O(n)$
5. $10\sqrt{n} + \log_2 n = O(n)$
6. $\sqrt{n} + \log_2 n = O(\log_2 n)$
7. $\sqrt{n} + \log_2 n = \Theta(\log_2 n)$
8. $\sqrt{n} + \log_2 n = \Theta(n)$
9. $2n + \log_2 n = \Theta(\sqrt{n})$
10. $1/2n^2 - 3n = \Theta(n^2)$
11. $6n^3 = \Theta(n^2)$
12. $\sqrt{n} + \log_2 n = \Omega(1)$
13. $\sqrt{n} + \log_2 n = \Omega(\log_2 n)$
14. $\sqrt{n} + \log_2 n = \Omega(n)$