

## Quiz 1

Name:

1. Let  $A$  and  $B$  be two events, if  $A \implies B$  then  $\neg B \implies ??$ 
  - a) Undetermined
  - b)  $\neg A$
  - c)  $A$
  - d)  $A \wedge B$
2. Let  $A$  and  $B$  be two events, if  $A \implies B$  then  $\neg A \implies ??$ 
  - a) Undetermined
  - b)  $\neg B$
  - c)  $B$
  - d)  $A \wedge B$
3. Let  $d$  be the result of rolling a fair 6-sided die. What is  $\Pr[d < 3 \vee d \text{ is odd}]$ ?
  - a)  $2/3$
  - b)  $1/2$
  - c)  $1/6$
  - d) None of the above
4. Let  $d$  be the result of rolling a fair 6-sided die. What is  $\Pr[d < 3 | d \text{ is odd}]$ ?
  - a)  $2/3$
  - b)  $1/2$
  - c)  $1/3$
  - d) None of the above
5. If  $f(n) = 5n^3 + 3n^2 \log n + 4$  then
  - a)  $f(n) = O(n^4)$
  - b)  $f(n) = O(n^3)$
  - c)  $f(n) = \Omega(n^3)$
  - d) All of the above
6. If  $f(n) = 3n^2 + 5n - 6$  then
  - a)  $f(n) = o(n^2)$
  - b)  $f(n) = \omega(n)$
  - c)  $f(n) = O(n)$
  - d) None of the above