1 Logical Negation

Please state the negation of the following statements.

1. It rains.

2. It rains and it is cold outside.

3. $A \wedge B$ (*Hint:* De Morgan)

4. $x = 3$ or $x = 1$

5. $A \vee B$

6. If it rains the street gets wet.

7. $A \Rightarrow B$

Solution:

1. It does not rain.

2. It either does not rain or it is not cold outside.

3. $\neg A \vee \neg B$

4. $x \neq 3$ and $x \neq 1$

5. $\neg A \wedge \neg B$

6. It rains and the street is not wet.

7. $A \wedge \neg B$