

Math Sheet

Name _____ Score _____ / 8 Teacher _____ Date _____

Law of Detachment

Treat both premises as given. Use modus ponens to write the required conclusion.

T = True; F = False

1. Premise 1: (if the switch is closed, then current reaches the lamp)

Premise 2: the switch is closed

Conclusion:

2. Premise 1: (if the water reaches freezing point, then ice begins to form)

Premise 2: the water reaches freezing point

Conclusion:

3. Premise 1: (if a triangle has three equal sides, then it is equilateral)

Premise 2: a triangle has three equal sides

Conclusion:

4. Premise 1: (if the temperature exceeds the limit, then the cooling fan starts)

Premise 2: the temperature exceeds the limit

Conclusion:

5. Premise 1: (if the battery charge is low, then the warning light appears)

Premise 2: the battery charge is low

Conclusion:

6. Premise 1: (if the measured angle is ninety degrees, then the angle is right)

Premise 2: the measured angle is ninety degrees

Conclusion:

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Name _____ Score _____ / 8 Teacher _____ Date _____

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Treat both premises as given. Use modus ponens to write the required conclusion.

T = True; F = False

7. Premise 1: (if a library book is overdue, then a reminder is sent)

Premise 2: a library book is overdue

Conclusion:

8. Premise 1: (if a number is divisible by ten, then its last digit is zero)

Premise 2: a number is divisible by ten

Conclusion:

Law of Detachment

Answer key

Treat both premises as given. Use modus ponens to write the required conclusion.

T = True; F = False

1. Premise 1: (if the switch is closed, then current reaches the lamp)

Premise 2: the switch is closed

Conclusion: current reaches the lamp

2. Premise 1: (if the water reaches freezing point, then ice begins to form)

Premise 2: the water reaches freezing point

Conclusion: ice begins to form

3. Premise 1: (if a triangle has three equal sides, then it is equilateral)

Premise 2: a triangle has three equal sides

Conclusion: it is equilateral

4. Premise 1: (if the temperature exceeds the limit, then the cooling fan starts)

Premise 2: the temperature exceeds the limit

Conclusion: the cooling fan starts

5. Premise 1: (if the battery charge is low, then the warning light appears)

Premise 2: the battery charge is low

Conclusion: the warning light appears

6. Premise 1: (if the measured angle is ninety degrees, then the angle is right)

Premise 2: the measured angle is ninety degrees

Conclusion: the angle is right

7. Premise 1: (if a library book is overdue, then a reminder is sent)

Premise 2: a library book is overdue

Conclusion: a reminder is sent

8. Premise 1: (if a number is divisible by ten, then its last digit is zero)

Premise 2: a number is divisible by ten

Conclusion: its last digit is zero