

MORE PRACTICE: Law of Detachment & Law of Syllogism

LAW OF DETACHMENT	LAW OF SYLLOGISM
$\frac{p \rightarrow q}{p} \therefore q$	$\frac{p \rightarrow q}{q \rightarrow r} \therefore p \rightarrow r$

Determine whether the conclusion following the given statements is justified by the Law of Detachment or the Law of Syllogism. If neither, write <i>invalid</i> .	
1	<p>Given: If I drive over the speed limit, then I will get a ticket. Given: I drove over the speed limit. Conclusion: I got a ticket.</p> <p>Answer: Law of Detachment</p>
2	<p>Given: If Amanda goes to the restaurant, then she will order a hamburger. Given: If she orders a hamburger, then she will get fries. Conclusion: If Amanda goes to the restaurant, then she will get fries.</p> <p>Answer: Law of Syllogism</p>
3	<p>Given: If it snows, then I will wear my snow boots. Given: If it snows, then I will not go to school that day. Conclusion: If I do not go to school, then I will wear my snow boots.</p> <p>Answer: Invalid</p>
4	<p>Given: If Tina goes to the beach, she will wear sunscreen. Given: Tina goes to the beach. Conclusion: Tina will wear sunscreen.</p> <p>Answer: Law of Detachment</p>
5	<p>Given: If you get a cold, then you eat chicken soup. Given: You ate chicken soup. Conclusion: You must have a cold.</p> <p>Answer: Invalid</p>
6	<p>Given: If two angles form a linear pair, then they are supplementary. Given: If two angles are supplementary, then the sum of their measures is 180°. Conclusion: If two angles form a linear pair, then the sum of their measures is 180°.</p> <p>Answer: Law of Syllogism</p>

7	<p>Given: If two angles measure 60°, then they are congruent. Given: $\angle J \cong \angle K$ Conclusion: $m\angle J = 60^\circ$ and $m\angle K = 60^\circ$</p>
	<p>Answer: Invalid</p>
8	<p>Given: If Kaylee gets at least a 95 on her final exam, she will get an A in Geometry. Given: Kaylee got a 98 on her final exam. Conclusion: Kaylee got an A in Geometry.</p>
	<p>Answer: Law of Detachment</p>
9	<p>Given: If it is raining, then you must bring an umbrella. Given: You bring your umbrella. Conclusion: It is raining.</p>
	<p>Answer: Invalid</p>
10	<p>Use the Law of Syllogism to write four conditional statements that can be formed from the following true statements.</p> <ul style="list-style-type: none"> a. If a quadrilateral is a square, then it has four right angles. b. If a quadrilateral is a rhombus, then its opposite sides are parallel. c. If a quadrilateral is a parallelogram, then its opposite angles are congruent. d. If a quadrilateral has four right angles, then it is a rectangle. e. If a quadrilateral is a rectangle, then its opposite sides are congruent. f. If the opposite sides of a quadrilateral are parallel, then it is a parallelogram. <p>Statement 1: (A+d) If a quadrilateral is a square, then it is a rectangle.</p> <p>Statement 2: (B+f) If a quadrilateral is a rhombus, then it is a parallelogram.</p> <p>Statement 3: (D+e) If a quadrilateral has 4 right angles, then its opposite sides are congruent.</p> <p>Statement 4: (F+c) If the opposite sides of a quadrilateral are parallel, then its opposite sides are congruent.</p>