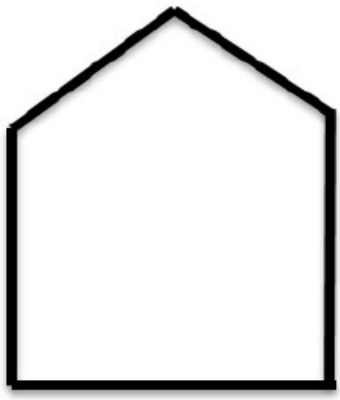
Urban Physics, 7S0X0

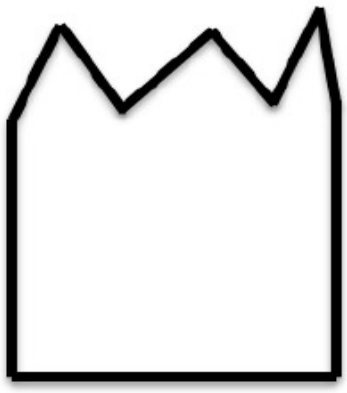
Urban Acoustics, Exercises week 5

Are the following statements right or wrong?

1. In road construction, dense asphalt is more sound absorptive than porous asphalt.
2. Propagation-based abatement is the best way to address noise problems.
3. Auto-transmission produces less noise compared to manual transmission in vehicles.
4. The primary objective of rail grinding is to improve the acoustic absorption of the tracks.
5. The most commonly used method for mitigating noise from railway source is to improve the rolling stock (breaks and wheels).
6. Geometry and orientation of buildings are the most important factors building designers should keep in mind when it comes to noise abatement measures.
7. The height of a noise barrier plays an important role in the effectiveness of the barrier.
8. Noise barriers are most effective when the barrier is of the same height throughout its length.
9. Noise barriers could afford to have breaks in them if there is sufficient overlaps between two adjacent sections.
10. Buildings a) and b) have different roof shapes; b) is more effective for noise reduction than a).



a)



b)

11. The reduction of noise through the ground effects is only through absorption.
12. Noise barriers that don’t block the line of sight between the source and the receiver are useful in terms of noise reduction.
13. Green treatments on buildings (e.g., green facades, courtyards or terraces) are more effective for noise abatement than closely-packed trees on a street.
14. Noise barriers are most effective closer to the source than at a distance from the source, or near the receiver.
15. The effect of the ground on noise abatement is also caused by diffraction.