Test 1 for the Deep Learning Demystified class
Fall 2026

1. Why do we need theoretical foundations?
2. Why do we need machine learning?
3. Why neural networks?
4. Why deep neural networks?
5. Why ReLU: an explanation based on invariance
6. Why ReLU: because it is the fastest to compute
6. Why optimal alternatives are invariant?
7. Which dependencies are scale-invariant?
8. Which dependencies are shift-invariant?
9. Why softmax?