

Notes & Assignment 7.2 – Geometric Transformations

Animated films and cartoons are generally produced using computers, this requires both artistic and mathematical knowledge. Animators will often need to move an object around without changing its size or shape, so they use geometric transformations.

Leroy the Lizard is hanging out in the desert. All transformations are from Leroy's original location.

- a. Leroy decides he wants to be a lazy lizard, and sun himself on the rock by translating. His nose should be on the point (24, 20).
 $(x, y) \rightarrow (x + 12, y + 8)$
- b. Leroy got too hot and decided to be a diving lizard and dive into the puddle. He needs to rotate 90° counterclockwise around the point (12, 7) so he will dive into the puddle.
- c. Leroy got scared when he saw a hawk's shadow pass by. He needs to reflect over the line $x = 23$ so he can run the other way and get home safely.

