



# Travel Times

# How big is...

- The solar system?  $3.67 \times 10^9$  miles
- The Milky Way galaxy?  $5.87 \times 10^{17}$  miles
- The Universe?  $5.87 \times 10^{49}$  miles  
(cosmic inflation theory)

\*Why do the milky way and galaxy estimates use 5.87?

# Representations

- Can you design a representation comparing these lengths?
- Is it possible to compare these sizes to each other using something in “our world”?

# Travel time to the Moon (220,000 mi.)

- How long would it take for a jet (600 mph) to travel to the Moon?
- How long for a rocket (25,000 mph) to reach the Moon?
- How long does it take for a sunbeam (670,617,000 mph) to travel from the Earth to the Moon?

# Travel time to the Sun (93,000,000 mi)

- How long would it take for a jet to travel to the Sun?
- How long for a rocket to reach the Sun?
- How long does it take for a sunbeam to travel from the Sun to the Earth?

# Travel time to the North Star ( $4.07 \times 10^{18}$ miles)

- How long would it take for a jet to travel to Polaris (the North Star)?
- How long for a rocket to reach Polaris?
- How long does it take for a sunbeam to travel from the Sun to Polaris?

# Assignment

- Worksheet- Comparing Travel Time