



The LRO satellite recently imaged the surface of the moon at a resolution of 1.4 meters/pixel. The above 700-meter wide image shows Downtown Las Vegas, Nevada (Top - Courtesy of Digital Globe, Inc.), and Mare Nubium (bottom - LRO) at this same resolution.

Problem 1 - About how big, in meters, are the large, medium and small-sized craters in the LRO image?

Problem 2 - How do the large, medium and small-sized craters compare to familiar objects in Downtown Las Vegas, or in your neighborhood?

Problem 3 - The Space Shuttle measures 37 meters long and has a wingspan of 24 meters. Draw a sketch of the Shuttle in the LRO image. Would you be able to see the Space Shuttle on the moon's surface at this resolution scale? (Note that the Space Shuttle is not equipped to travel to the moon and land!).

Problem 1 - About how big, in meters, are the large, medium and small-sized craters in the LRO image? Answer: the image is 153 millimeters wide so the scale is 700 meters/153 mm = **4.6 meters/mm**. Small craters are about 4-5 meters across; medium craters are about 10 to 15 meters across, and the few large craters are about 30 to 100 meters across.

Problem 2 - How do the large, medium and small-sized craters compare to familiar objects in Downtown Las Vegas, or in your neighborhood? Answer: The small craters are about as wide as your car, mini-van or street. The medium craters are about as wide as large as your house. The big craters are as big as your entire yard or a large Boulevard.

Problem 3 - The Space Shuttle measures 37 meters long and has a wingspan of 24 meters. Draw a sketch of the Shuttle in the LRO image. Would you be able to see the Space Shuttle on the moon's surface at this resolution scale? (Note that the Space Shuttle is not equipped to travel to the moon and land!). Answer: **The shuttle would be 37 meters/4.6 M/mm = 8 millimeters long by 24/4.6 = 5.2 millimeters wide**. The figure below shows the Shuttle to the same scale as the LRO image.

