

(2) [5 points] A loonie (one Canadian dollar) has a thickness of 1.95mm. The lunar distance from the Earth (distance from Moon to Earth) is 385,000km. Calculate in scientific notation how much money you would need to build a tower of loonies to the Moon. Give your final answer in non-scientific form.

$$\frac{385,000 \text{ km}}{1.95 \text{ mm}} = \frac{3.85 \cdot 10^5 \text{ km}}{1.95 \cdot 10^0 \text{ mm}} =$$

$$\frac{10^5 \cdot 3.85}{1.95} \cdot \frac{10^3 \text{ m}}{\text{mm}} = \frac{3.85 \cdot 10^8}{1.95} \cdot \frac{10^3 \cancel{\text{mm}}}{\cancel{\text{mm}}} = \frac{3.85}{1.95} \cdot 10^8 =$$

$$1.9744 \cdot 10^8 = 197,440,000,000$$

You need approximately 197.44 billion dollars.