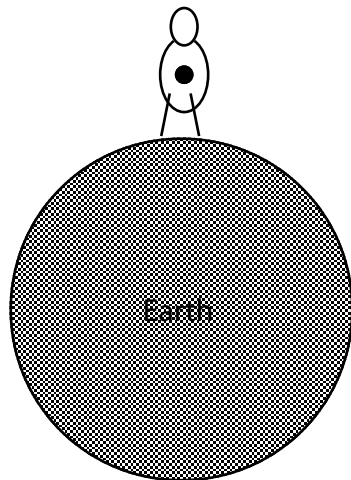
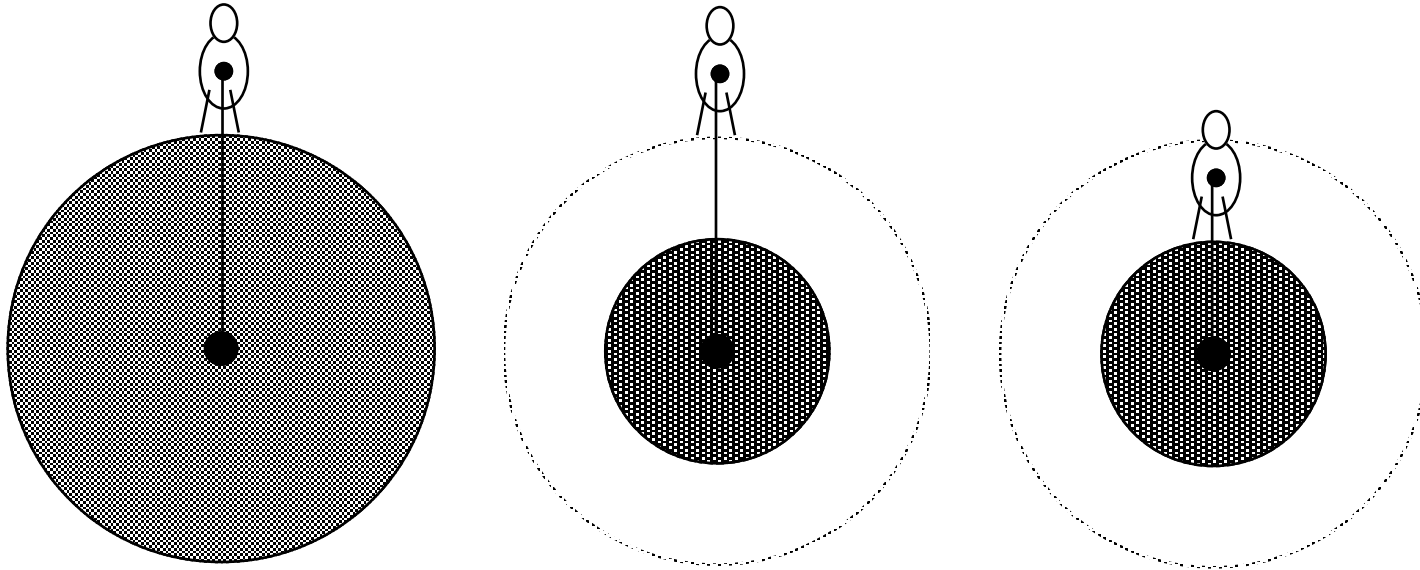


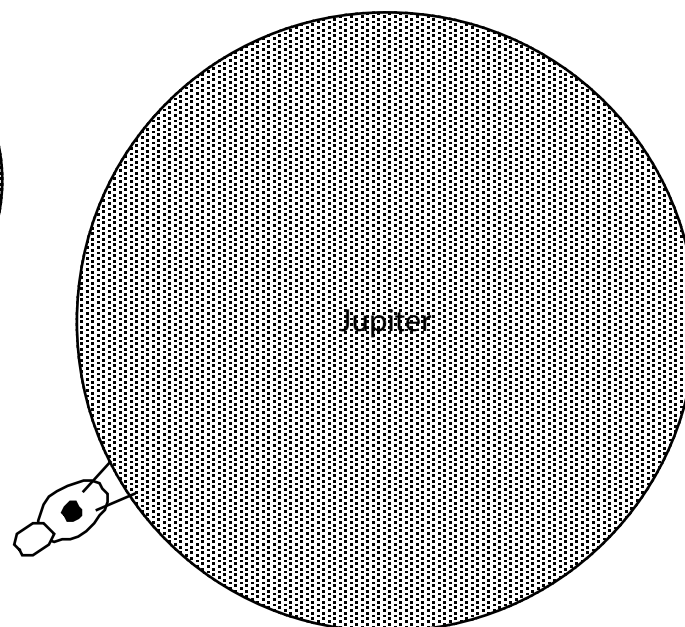
Surface Gravity

$$\text{Force of Gravity} = G \frac{M_1 m_2}{r^2}$$

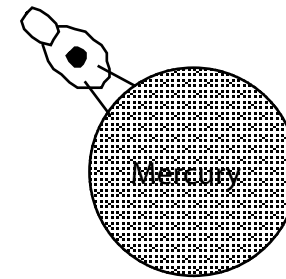
r is measured from center of mass to center of mass.



Person weighs 100 lbs.
on Earth.



Jupiter has more mass than Earth causing person to weigh more,
but person is farther from center of mass of Jupiter causing person
to weigh less. Net result, person weighs 254 lbs.



Mercury has less mass
than Earth causing
person to weigh less,
but person is closer to
center of mass of
Mercury causing
person to weigh more.
Net result, person
weighs 38 lbs.