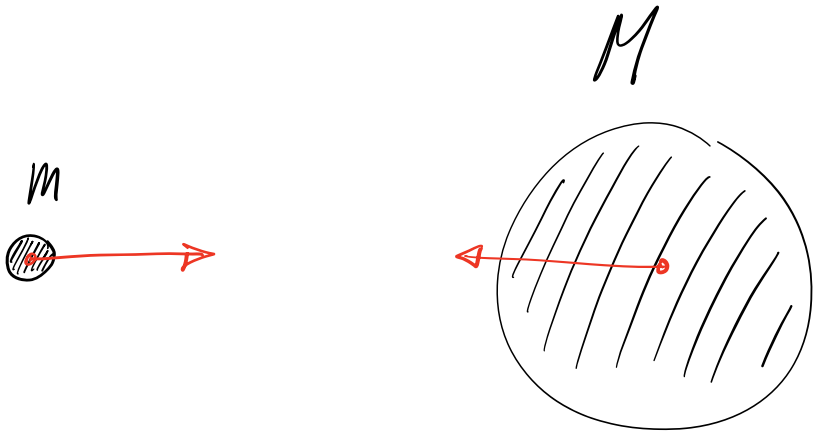
4.5



$$F = G \cdot \frac{m \cdot M}{d^2}$$

constante

$$\frac{F}{1} = \frac{G \cdot m \cdot M}{d^2}$$

a) $$m = \frac{F d^2}{GM}$$

b) $$F = \frac{G \cdot m \cdot M}{d^2}$$

$$\frac{F}{G} = \frac{m \cdot M}{d^2}$$

$$\frac{F}{G \cdot M} = \frac{m}{d^2}$$

$$\frac{F d^2}{GM} = \frac{m}{1} = m$$

$$\frac{d^2}{1} = \frac{G \cdot m \cdot M}{F}$$

$$d^2 = \frac{GmM}{F}$$

$$d = \sqrt{\frac{GmM}{F}}$$

$$F = G \cdot \frac{mM}{d^2}$$

$$F = \frac{GmM}{d^2}$$

$$\frac{F}{GmM} = \frac{1}{d^2}$$

$$\frac{GmM}{F} = \frac{d^2}{1}$$

A	B
D	C

A	D
B	C

C	B
D	A

AC	B
D	1

2.20

$$F = G \cdot \frac{m_1 \cdot m_2}{d^2} = \frac{7 \cdot 10^{-11}}{1} \cdot \frac{6 \cdot 10^{24} \cdot 7 \cdot 10^{22}}{(4 \cdot 10^8)^2}$$

$m_1 = m_T = 6 \cdot 10^{24}\ kg$

$m_2 = m_L = 7 \cdot 10^{22}\ kg$

$d = 400\,000\ km = 4 \cdot 10^8\ m$

$G = 7 \cdot 10^{-11}$

$$= 7 \cdot 6 \cdot 7 \frac{10^{-11} \cdot 10^{24} \cdot 10^{22}}{16 \cdot 10^{16}}$$

$$= \frac{7 \cdot 6 \cdot 7}{16} \cdot 10^{19}$$

$$= 18{,}375 \cdot 10^{19}$$

$$= 1{,}8375 \cdot 10^{20}$$