

Id No Name Date

Word Problem

If two objects of masses $6 \times 10^{24}\text{kg}$ and 60kg are separated by a distance of 6000km , calculate the force due to gravitation.

[$G = 6.673 \times 10^{-11}\text{Nm}^2\text{kg}^{-2}$]

Choose the correct option drag and drop in the correct position to complete the word problem

$6 \times 10^{24}\text{kg}$	6000km	60kg	10^6 m	10^3 m	60kg
$6.673 \times 10^{-11}\text{Nm}^2\text{kg}^{-2}$	$36 \times 10^{12}\text{ m}^2$	$6 \times 10^{24}\text{kg}$	66.73		
667.3					

$m_1 =$

$m_2 =$

$d =$ [$1\text{km} = 1000\text{m} = 10^3\text{m}$]

$d = 6000 \times$

$= 6 \times 10^3 \times 10^3\text{m}$

$= 6 \times$

$F = \frac{G (m_1 \times m_2)}{d^2}$

$= \frac{\text{} \times (\text{} \times \text{})}{(6 \times 10^6\text{m})^2}$

$= \frac{6.673 \times 6 \times 60 \times 10^{-11} \times 10^{24}\text{ Nm}^2\text{kg}^{-2} \times \text{kg} \times \text{kg}}{\text{}}$

$= \frac{\text{} \times 10^{13}\text{ Nm}^2\text{kg}^{-2} \times \text{kg} \times \text{kg}}{10^{12}\text{ m}^2}$

$F =$ N

If two objects of masses $8 \times 10^{24}\text{kg}$ and 80kg are separated by a distance of 2000km , calculate the force due to gravitation.

$[G = 6.673 \times 10^{-11}\text{Nm}^2\text{kg}^{-2}]$

Choose the correct option drag and drop in the correct position to complete the word problem

$8 \times 10^{24}\text{kg}$	2000km	80kg	10^6 m	10^3 m	80kg
$6.673 \times 10^{-11}\text{Nm}^2\text{kg}^{-2}$	$4 \times 10^{12}\text{ m}^2$	$8 \times 10^{24}\text{kg}$	$1,0676.8$		
$1,067.68$					

$m_1 =$

$d =$ $[1\text{km} = 1000\text{m} = 10^3\text{m}]$

$m_2 =$

$d = 2000 \times$

$= 2 \times 10^3 \times 10^3\text{m}$

$= 2 \times$

$F = \frac{G (m_1 \times m_2)}{d^2}$

d^2

$= \frac{\text{} \times (\text{} \times \text{})}{(2 \times 10^6\text{m})^2}$

$= \frac{6.673 \times 8 \times 80 \times 10^{-11} \times 10^{24} \text{Nm}^2\text{kg}^{-2} \times \text{kg} \times \text{kg}}{10^{12} \text{m}^2}$

$= \frac{\text{} \times 10^{13} \text{Nm}^2\text{kg}^{-2} \times \text{kg} \times \text{kg}}{10^{12} \text{m}^2}$

$= \frac{\text{} \times 10^{13} \text{Nm}^2\text{kg}^{-2} \times \text{kg} \times \text{kg}}{10^{12} \text{m}^2}$

$F =$ N