

Answer on question 60562

mass particles of 1 kg each are placed along x axis at $x=1, 4, 8, \dots$ till infinity then gravitation force on a particle of mass 3kg placed on origin is?

$$F = G \frac{m_1 m_2}{r_{12}^2} \rightarrow F = 6.67 * 10^{-11} * 1 * 3 * \sum_{n=0}^{\infty} \frac{1}{2^{2n}} = 6.67 * 10^{-11} * 3 * \frac{4}{3}$$
$$= 26.68 * 10^{-11} \text{ newton}$$

Answer $F = 26.68 * 10^{-11} \text{ newton}$.

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