

**JEE MAIN GRAVITATION — UNIVERSAL LAW OF GRAVITATION —
PYQS**

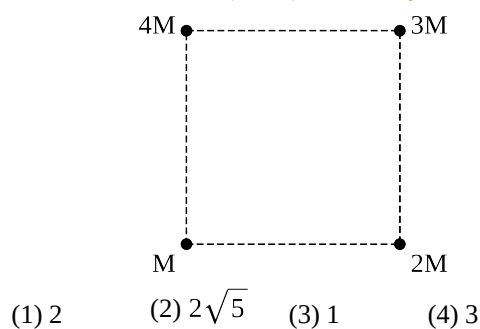
Max. Marks: 8

Questions: 2

Section A (MCQ)

Q.1 Net gravitational force at the center of a square is found to be F_1 when four particles having mass M , $2M$, $3M$ and $4M$ are placed at the four corners of the square as shown in figure and it is F_2 when the positions of $3M$ and $4M$ are interchanged. The ratio $\frac{F_1}{F_2}$ is $\frac{\alpha}{\sqrt{5}}$. The value of α is _____.

[JEE Main 2026 (Online) 22nd January Morning Shift]



Scan or tap for the full solution



Section B (Numerical)

Q.2 Three identical spheres of mass m are placed at the vertices of an equilateral triangle of length a . When released, they interact only through gravitational force and collide after a time $T = 4$ seconds. If the sides of the triangle are increased to length $2a$ and also the masses of the spheres are made $2m$, then they will collide after _____ seconds.

[JEE Main 2025 (Online) 3rd April Morning Shift]

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full solution



ANSWER KEY

Section A (MCQ)

[illegible]

Section B (Numerical)

[illegible]