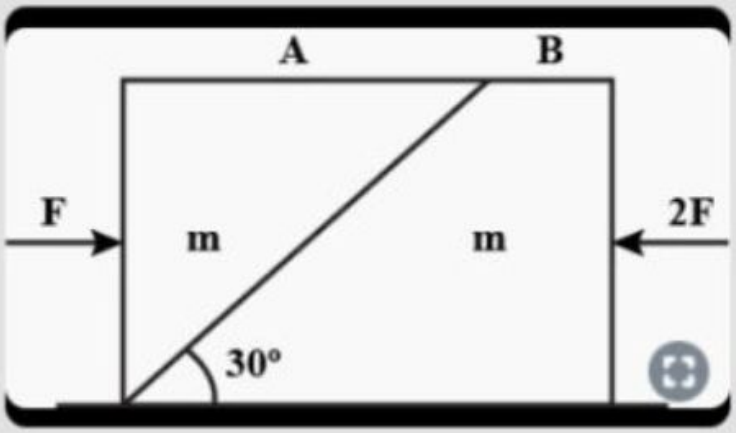
Two blocks A and B each of mass m are placed on a smooth horizontal surface. Two horizontal forces F and 2F are applied on blocks A and B, respectively, as shown in F ig.. Block a does not slide on block B. Then the normal reaction acting between the two blocks in (assume no friction between the blocks)



A F

B f/2

C $\frac{F}{\sqrt{3}}$

D 3F

Correct option is D)

Consider Both masses as a system,

Total force on system $F_T = 2F - F = F$ (Left side)

Mass of system $M = 2m$

Acceleration of two mass system is $a = \frac{F}{2m}$ towards left free body diagram is

$N \cos 60 - F = ma$

$N \cos 60 - F = \frac{F}{2} \quad [a = \frac{F}{2m}]$

$\frac{N}{2} = \frac{3F}{2}$

$N = 3F$

Normal reaction acting between two blocks = $N = 3F$

Hence,

option (D) is correct answer.