

Fotboll skjuts. Straff.

30 m/s

Kontakttid 7 ms

Medelkraft mot fot?

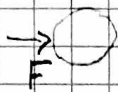
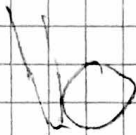
350 g

Före



0 m/s

under



$\Delta t = 0,007 \text{ s}$
 $m = 0,35 \text{ kg}$

efter



→
30 m/s

$\Delta v = 30 \text{ m/s}$

Impulslagen

$$F \cdot \Delta t = \Delta p$$

$$F \cdot \Delta t = m \cdot \Delta v$$

$$F \cdot 0,007 = 0,35 \cdot 30$$

$$F \cdot 0,007 = 10,5$$

$$F = \frac{10,5}{0,007}$$

$$F = \underline{\underline{1500 \text{ [N]}}}$$

F kraft [N]

Δt tid [s]

m massa [kg]

Δv hastighetsändring [$\frac{\text{m}}{\text{s}}$]

Δp ändring i rörelsemängd

[Ns]

$\frac{\text{kg m}}{\text{s}}$