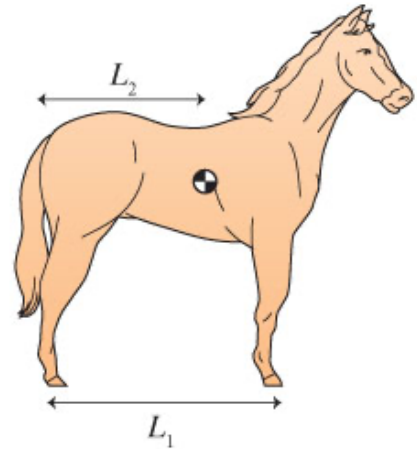


Practice: Static Equilibrium

Problem 1: A horse has a mass $m = 510.2$ kg. The distance between the front and rear hooves $L_1 = 1.8$ m and the distance from the rear hooves to the center of mass $L_2 = 1.1$ m are shown in the figure.

What are the forces n_f exerted on the front hooves and n_r exerted on the rear hooves, respectively?

[Ans: $n_f = 3056$ N, $n_r = 1944$ N]



Problem 2: A diver of mass $m_d = 60$ kg stands at the end of a spring board of mass $m_b = 28$ kg, as shown in the figure. The board is attached to a hinge at the left end but simply rests on the right support.

What are the magnitudes of the force exerted by the support and the vertical component of the force exerted by the hinge?

[Ans: $n_s = 1280$ N, $|h_y| = 418$ N]

