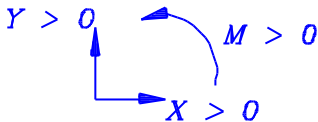


Lista de exercícios nº 2

Reações de apoio

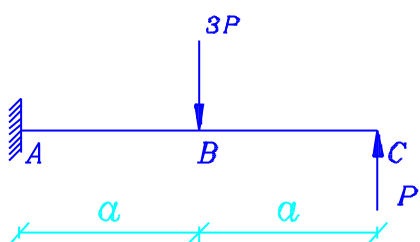
1 - Determinar as reações de apoio das seguintes estruturas:

Convenção de sinais \implies



$Y > 0$ $M > 0$
 $X > 0$

1.1

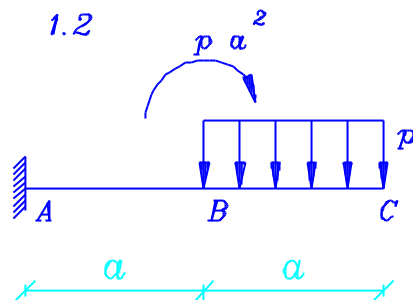


$$R: X_A = 0$$

$$Y_A = 2P$$

$$M_A = P\alpha$$

1.2

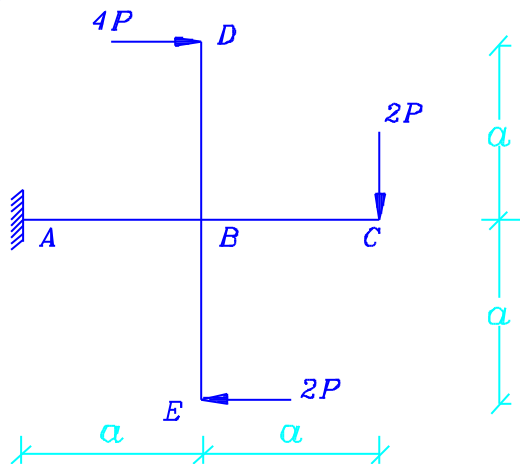


$$R: X_A = 0$$

$$Y_A = pa$$

$$M_A = \frac{5}{2} pa^2$$

1.3

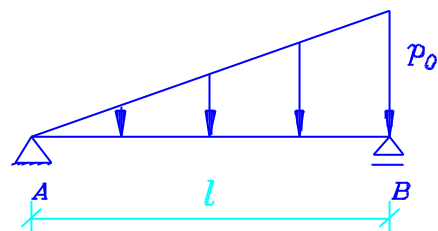


$$R: X_A = -2P$$

$$Y_A = 2P$$

$$M_A = 10Pa$$

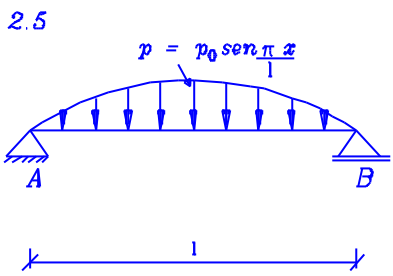
1.4



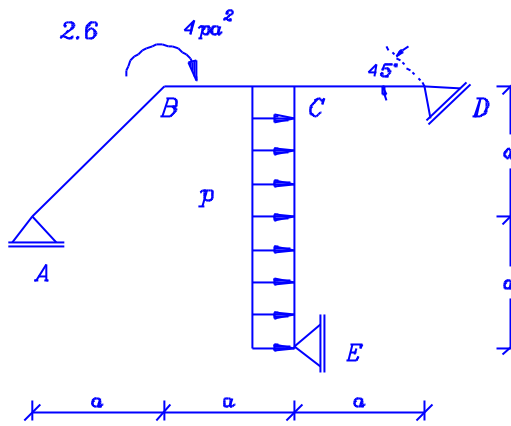
$$R: X_A = 0$$

$$Y_A = \frac{p_0 l}{6}$$

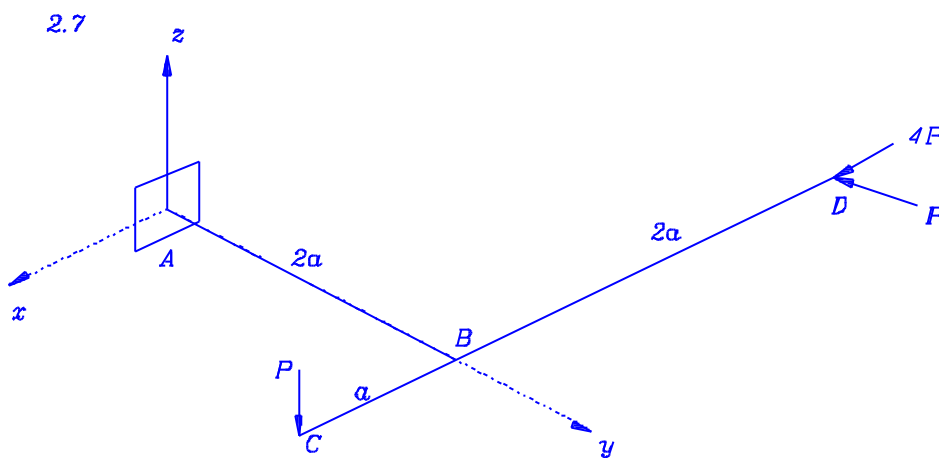
$$Y_B = \frac{p_0 l}{3}$$



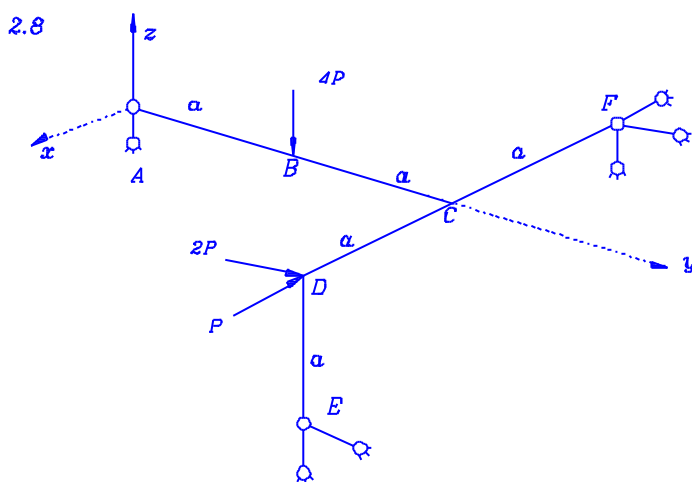
R: $X_A = 0$
 $Y_A = Y_B = \frac{p_0 l}{\pi}$



R: $X_C = -\frac{4pa}{5}$ $Y_A = -\frac{6pa}{5}$
 $R_E = \frac{6\sqrt{2}pa}{5}$



R: $X_A = -4P$ $Y_A = P$ $Z_A = P$ $M_{x A} = 2Pa$
 $M_{y A} = -Pa$ $M_{z A} = 6Pa$



$Z_A = P$ $Y_F = -2P$ $Z_E = -\frac{3P}{2}$ $X_F = P$
 $Y_F = 0$ $Z_F = \frac{3P}{2}$