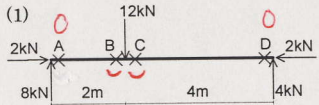


問. 図中×印点での断面力(軸力N, せん断力Q, 曲げモーメントM)を求めなさい。
また、曲げモーメントにより部材が伸びる側に“()”を、生じない場合には“0”を描きなさい。



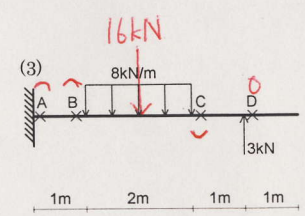
点A: $N_A = -2kN$, $Q_A = 8kN$, $M_A = 0$

点B: $N_B = -2kN$, $Q_B = 8kN$, $M_B = 16kNm$

点C: $N_C = -2kN$, $Q_C = -4kN$, $M_C = 16kNm$

点D: $N_D = -2kN$, $Q_D = -4kN$, $M_D = 0$

	N	Q	M
A	-2kN	8kN	0
B	-2kN	8kN	16kNm
C	-2kN	-4kN	16kNm
D	-2kN	-4kN	0



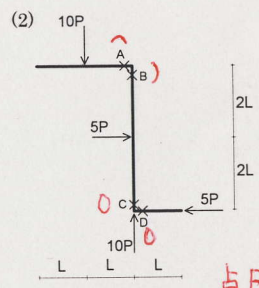
点A: $N_A = 0$, $Q_A = 13kN$, $M_A = -20kNm$

点B: $N_B = 0$, $Q_B = 13kN$, $M_B = -7kNm$

点C: $N_C = 0$, $Q_C = -3kN$, $M_C = 3kNm$

点D: $N_D = 0$, $Q_D = 0$, $M_D = 0$

	N	Q	M
A	0	13kN	20kNm
B	0	13kN	7kNm
C	0	-3kN	3kNm
D	0	0	0



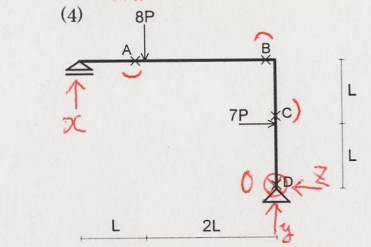
点A: $N_A = 0$, $Q_A = -10P$, $M_A = -10PL$

点B: $N_B = -10P$, $Q_B = 0$, $M_B = -10PL$

点C: $N_C = -10P$, $Q_C = 5P$, $M_C = 0$

点D: $N_D = -5P$, $Q_D = 0$, $M_D = 0$

	N	Q	M
A	0	-10P	10PL
B	-10P	0	10PL
C	-10P	5P	0
D	-5P	0	0



$\sum X_i = 7P - Z = 0 \Rightarrow Z = 7P$

$\sum Y_i = x + y - 8P = 0 \Rightarrow y = 5P$

$\sum M_i = 3xL - 16PL + 7PL = 0 \Rightarrow 3x = 9P \Rightarrow x = 3P$

点A: $N_A = 0$, $Q_A = 3P$, $M_A = 3PL$

点B: $N_B = 0$, $Q_B = -5P$, $M_B = -9PL$

点C: $N_C = -5P$, $Q_C = 0$, $M_C = 7PL$

点D: $N_D = -5P$, $Q_D = 7P$, $M_D = 0$

	N	Q	M
A	0	3P	3PL
B	0	-5P	9PL
C	-5P	0	7PL
D	-5P	7P	0