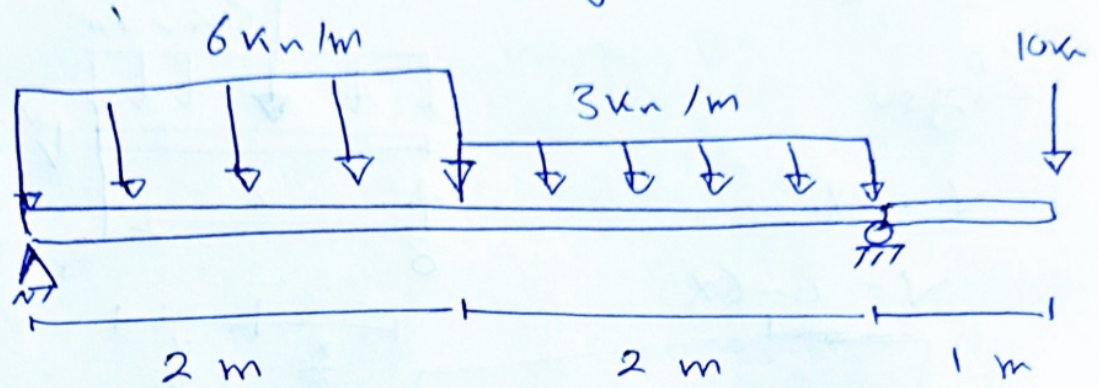
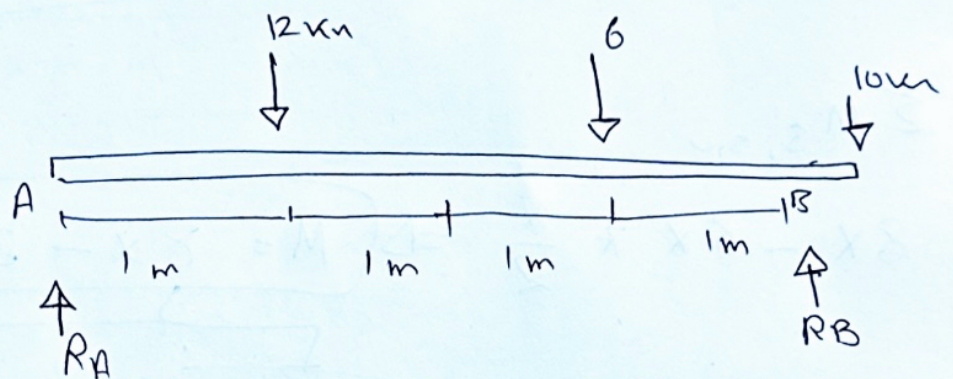


Example 3 (H.w) Draw S.F and B.M diagram



↓ Joint, supports, loads!



$$\sum M_{at B} = 0$$

$$4R_A - 12 \times 3 - 6 \times 1 + 10 \times 1 = 0$$

$$4R_A = 32 \Rightarrow \boxed{R_A = 8 \text{ kN}} \quad R_A = 8 \text{ kN}$$

$$\sum F_y = 0 \Rightarrow 8 - 12 - 6 + R_B = 0 \Rightarrow R_B = 20 \text{ kN}$$

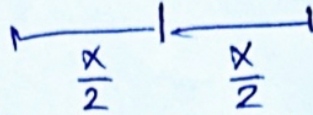
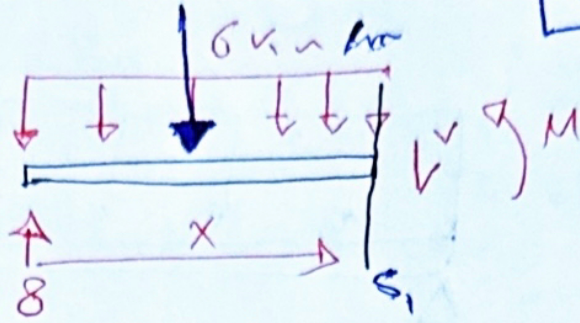
For Part 1 $0.15 \times 1.5 \times 2$

شکل، کج حمل مرکز $\delta * X = 6x$

$\sum F_{y, s0}$

$V + 6x - 8$

$V = 8 - 6x$



at $x = 0 \quad V = 8$

at $x = 2 \quad V = -4$

$\sum M_{S, s0}$

$8x - 6x * \frac{x}{2} \Rightarrow M = 8x - 3x^2$

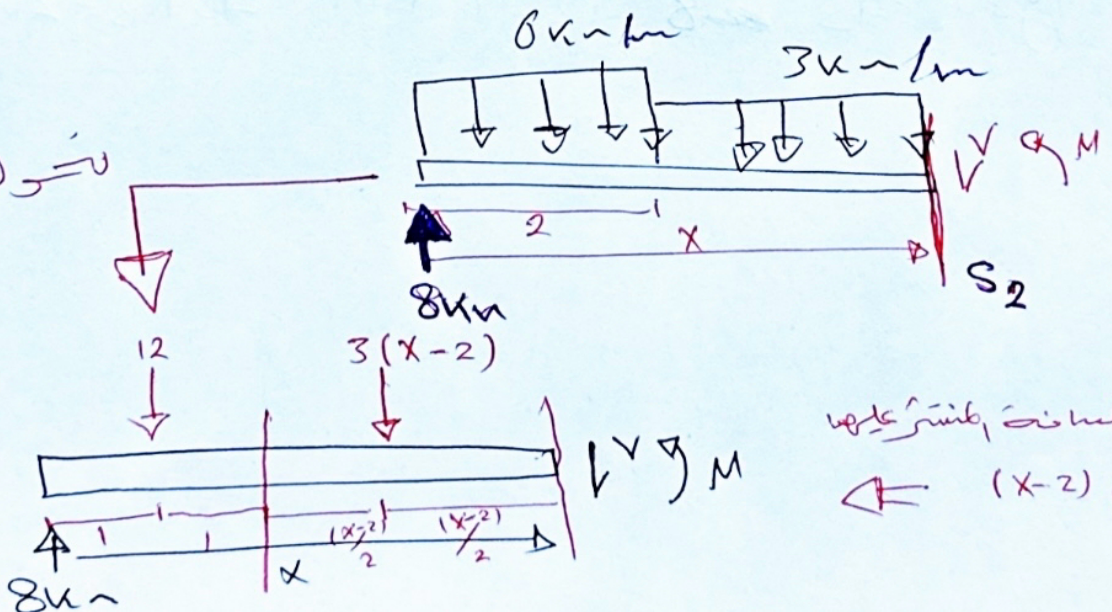
at $x = 0$
 $M = 0$

at $x = 2$
 $M = 4$

For Part 2

$2.15 \times 1.5 \times 4$

شکل، کج حمل مرکز

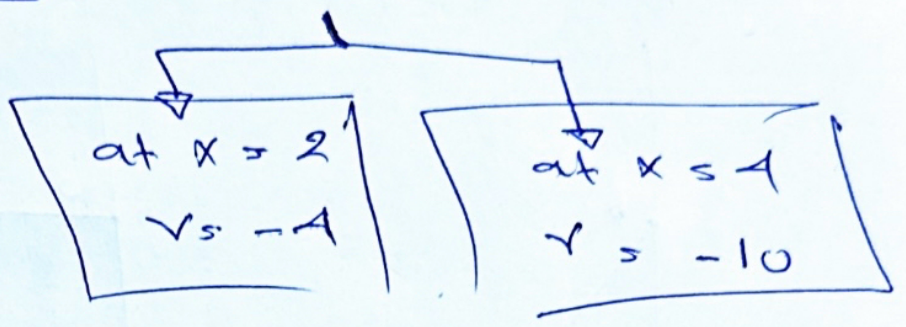


شکل، کج حمل مرکز
کج (x-2)

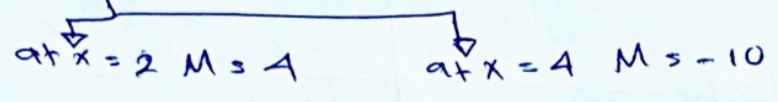
$\sum F_{y50}$

$-8 + 12 + 3(x-2) + V = 0$

$V = 8 - 12 - 3x + 6 \Rightarrow V = 2 - 3x$

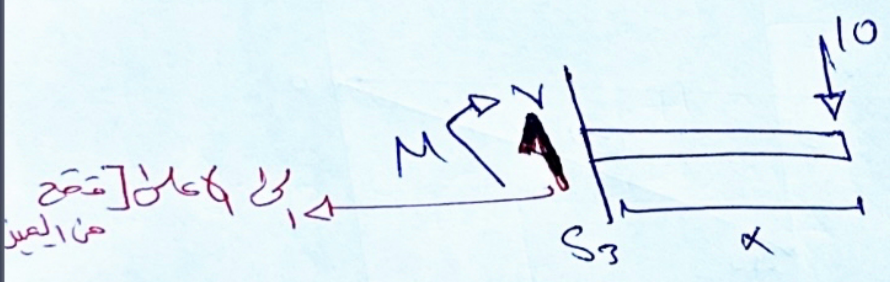


$\sum M_{S2} = 0 \Rightarrow M = -\frac{3}{2}x^2 + 2x + 6$



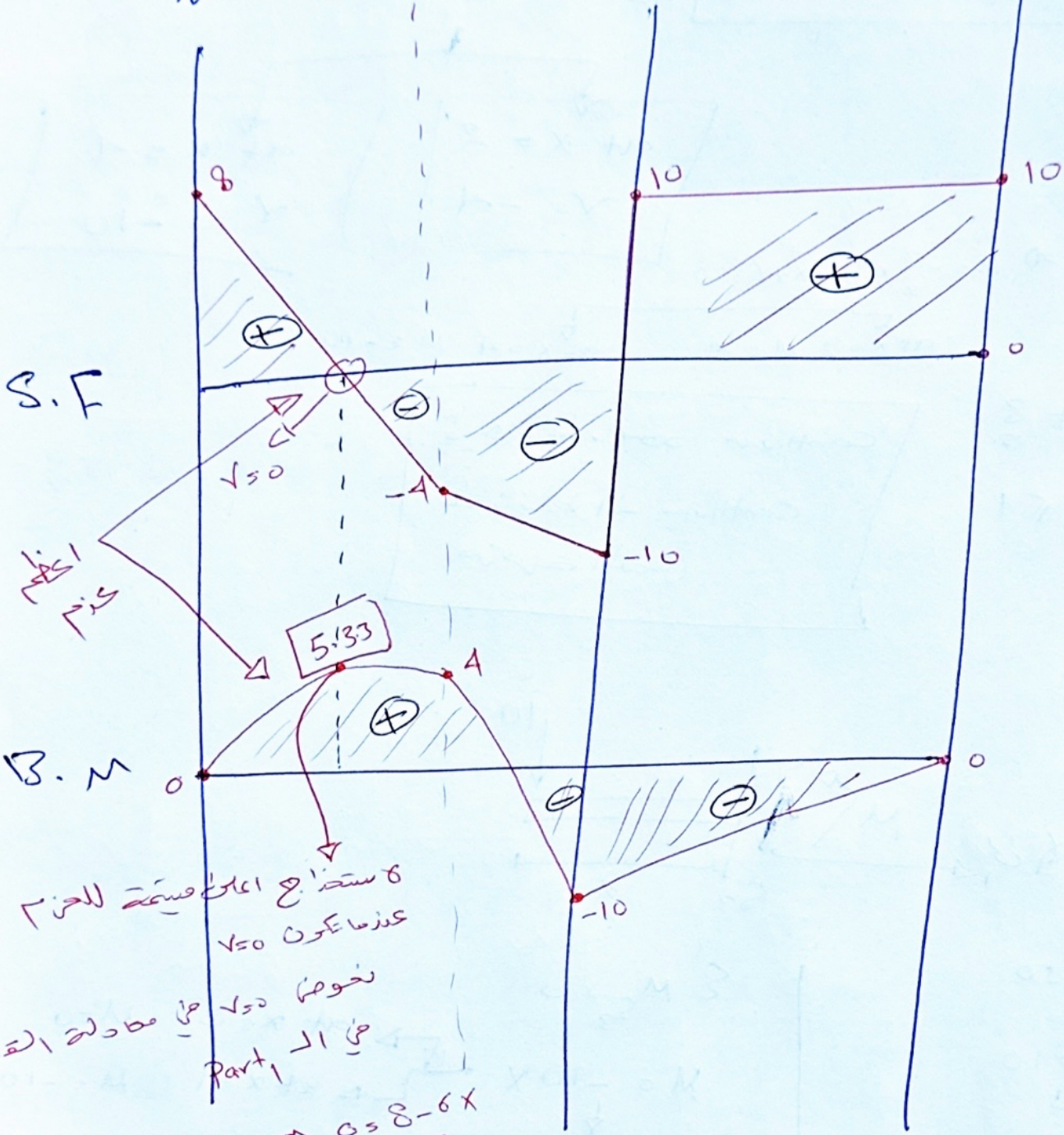
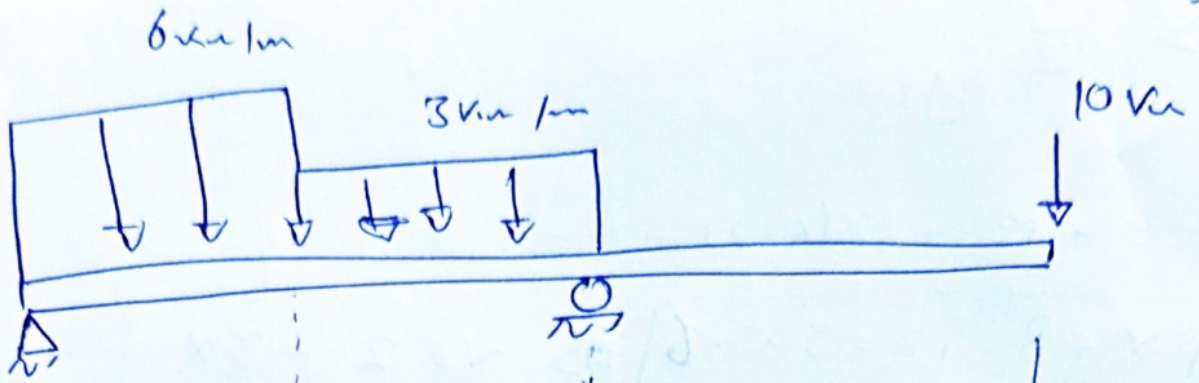
Pratt 3
0 < x < 1

Cantilever \Rightarrow $\sum F = 0$
 Cantilever \rightarrow $\sum M = 0$
 من جهة اليمين



$\sum F_{y50}$
 $V = 10$
 at $x = 0$
 at $x = 1$

$\sum M_{S3} = 0$
 $M = -10x$
 at $x = 0$ $M = 0$
 at $x = 1$ $M = -10$
 مع اعتبار اليمين
 كان من جهة اليمين
 اعتبار اليمين
 اليمين



8 نقطة مع اعلى سرعة للحزب
 عند $v=0$
 نخوف $v=0$ في مقادير القضا
 Part 1

$v = 8 - 6x \Rightarrow 0 = 8 - 6x$
 $x = 1.33 \text{ m}$

$v=0$
 Max M
 نخوف x في مقادير القضا
 $M = 8x - 3x^2 \Rightarrow M = 5.33 \text{ kNm}$
 اعلى عند $v=0$
 $x = 1.33$