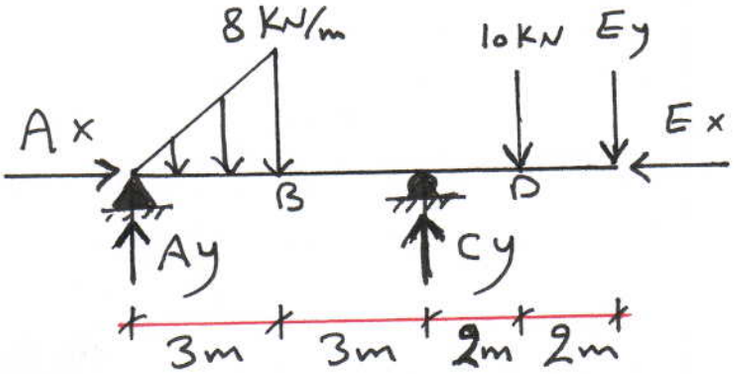
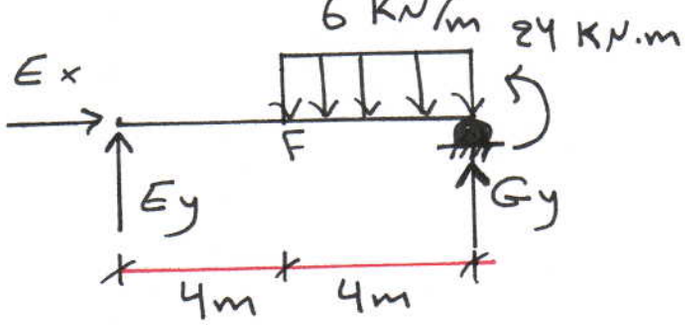
Quiz (A)

Sol:-



Part (ABCDE)



Part (EFG)

From part (EFG)

$\Sigma F_x = 0 \xrightarrow{+}$ $\boxed{Ex = 0}$

$\Sigma M_G = 0 \; (+\circlearrowleft)$

$24 + 6(4)(2) - Ey(8) = 0$ $\boxed{Ey = 9\ KN \uparrow}$

$\Sigma F_y = 0 \uparrow +$

$9 + Gy - 6(4) = 0$ $\boxed{Gy = 15\ KN \uparrow}$

From part (ABCDE)

$\Sigma F_x = 0 \xrightarrow{+}$ $\boxed{Ax = 0}$

$\Sigma M_A = 0 \; (+\circlearrowright)$

$\frac{8(3)}{2}(2) - Cy(6) + 10(8) + 9(10) = 0$ $\boxed{Cy = 32.333\ KN \uparrow}$

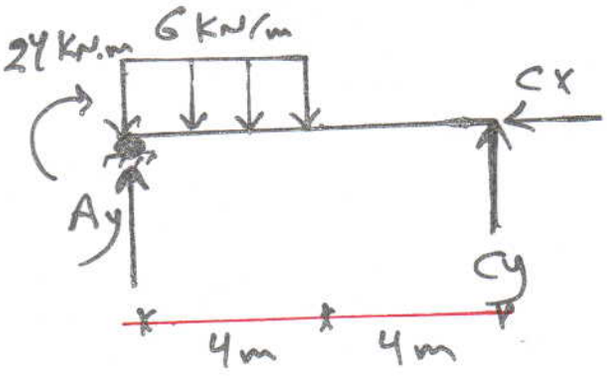
$\Sigma F_y = 0 \uparrow +$

$32.333 + Ay - \frac{8(3)}{2} - 10 - 9 = 0$ $Ay = -1.333\ KN$

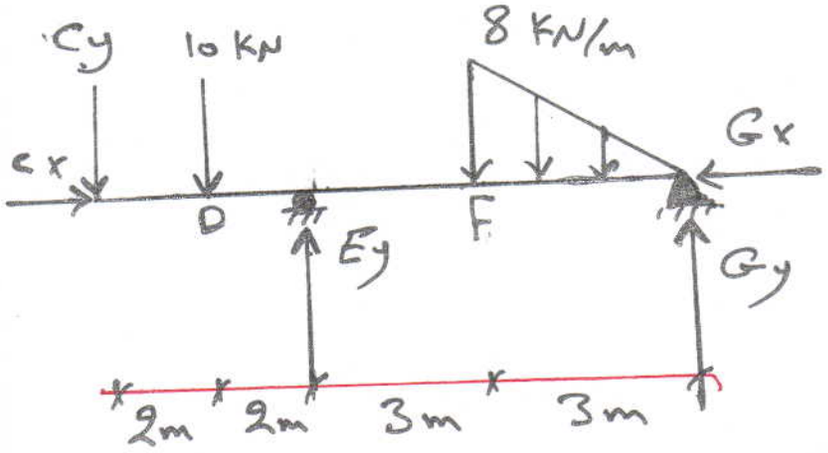
$\boxed{Ay = 1.333\ KN \downarrow}$

- ب - الحل Quiz (A)

Sol:-



Part (ABC)



Part (CDEFG)

From Part (ABC)

$\Sigma f_x = 0 \xrightarrow{+}$ $\boxed{Cx = 0}$

$\Sigma m_A = 0 \circlearrowleft +$

$Cy(8) - 24 - 6(4)(2) = 0$ $\boxed{Cy = 9\ KN \uparrow}$

$\Sigma f_y = 0 \uparrow +$

$Ay + 9 - 6(4) = 0$ $\boxed{Ay = 15\ KN \uparrow}$

From part (CDEFG)

$\Sigma f_x = 0 \xrightarrow{+}$ $\boxed{Gx = 0}$

$\Sigma m_G = 0 \circlearrowleft +$

$Ey(6) - 9(10) - 10(8) - \frac{8(3)}{2}(2) = 0$ $\boxed{Ey = 32.333\ KN \uparrow}$

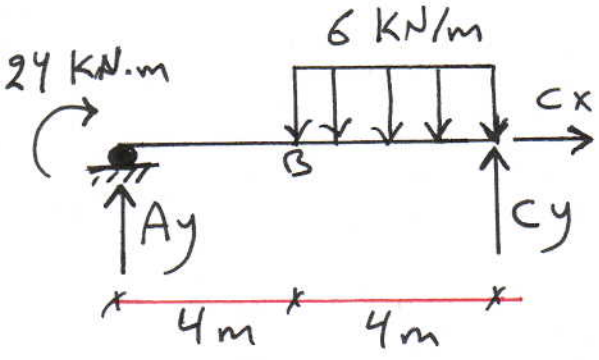
$\Sigma f_y = 0 \uparrow +$

$32.333 - 9 - 10 - \frac{8(3)}{2} + Gy = 0$ $Gy = -1.333\ KN$

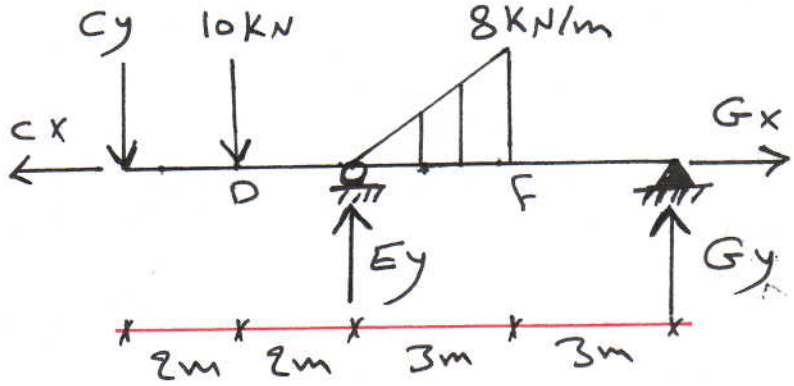
$\boxed{Gy = 1.333\ KN \downarrow}$

Quiz (B)

Sol:-



Part (ABC)



Part (CDEFG)

From part (ABC)

$\Sigma F_x = 0 \xrightarrow{+}$ $\boxed{Cx = 0}$

$\Sigma M_C = 0 \circlearrowleft +$

$6(4)(2) - 24 - Ay(8) = 0$ $\boxed{Ay = 3KN\uparrow}$

$\Sigma F_y = 0 \uparrow +$ $3 + Cy - 6(4) = 0$ $\boxed{Cy = 21KN\uparrow}$

From part (CDEFG)

$\Sigma F_x = 0 \xrightarrow{+}$ $\boxed{Gx = 0}$

$\Sigma M_G = 0 \circlearrowright +$

$Ey(6) - 21(10) - 10(8) - \frac{8(3)}{2}(4) = 0$ $\boxed{Ey = 56.333KN\uparrow}$

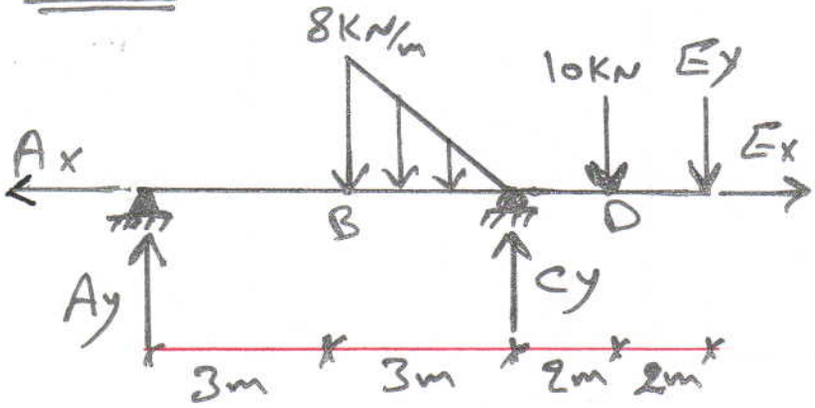
$\Sigma F_y = 0 \uparrow +$

$56.333 - 21 - 10 - \frac{8(3)}{2} + Gy = 0$ $Gy = -13.333KN$

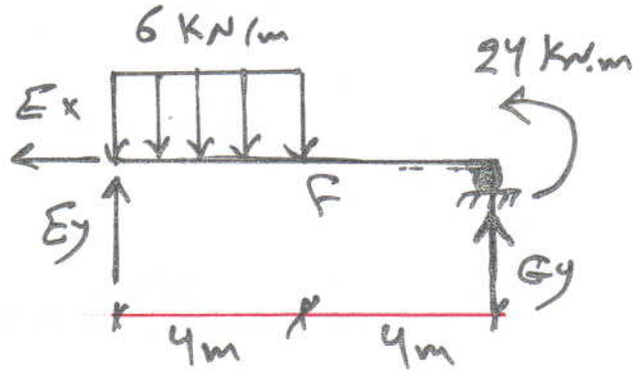
$\boxed{Gy = 13.333KN\downarrow}$

- ب - سلسلة Quiz (B)

Sol:-



Part (ABCDE)



Part (EFG)

From part (EFG)

$\sum Fx = 0 \xrightarrow{+}$ $\boxed{Ex = 0}$

$\sum m E = 0 \circlearrowleft +$

$24 + Gy(8) - 6(4)(2) = 0$

$\boxed{Gy = 3 KN \uparrow}$

$\sum Fy = 0 \uparrow +$

$3 + Ey - 6(4) = 0$

$\boxed{Ey = 21 KN \uparrow}$

From part (ABCDE)

$\sum Fx = 0 \xrightarrow{+}$ $\boxed{Ax = 0}$

$\sum m A = 0 \circlearrowright +$

$\frac{8(3)}{2}(4) + 10(8) + 21(10) - Cy(6) = 0$ $\boxed{Cy = 56.333 KN \uparrow}$

$\sum Fy = 0 \uparrow +$

$Ay - \frac{8(3)}{2} + 56.333 - 10 - 21 = 0$ $Ay = -13.333 KN$

$\boxed{Ay = -13.333 KN \downarrow}$