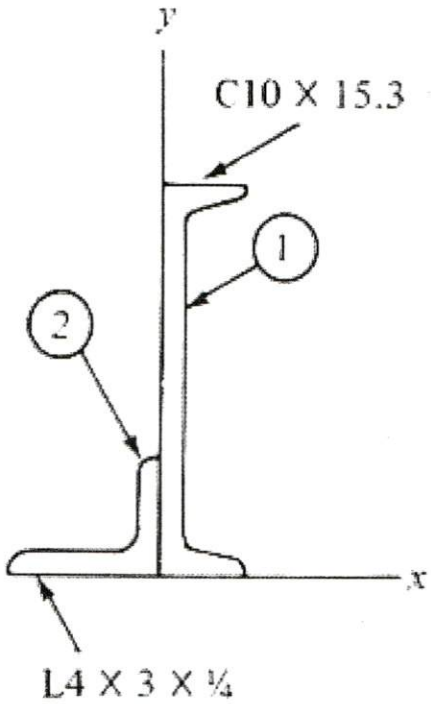


CMGT 340 - Quiz #11

NAME: _____

- Find the centroid of the built-up structural steel member with respect to the given reference axis.



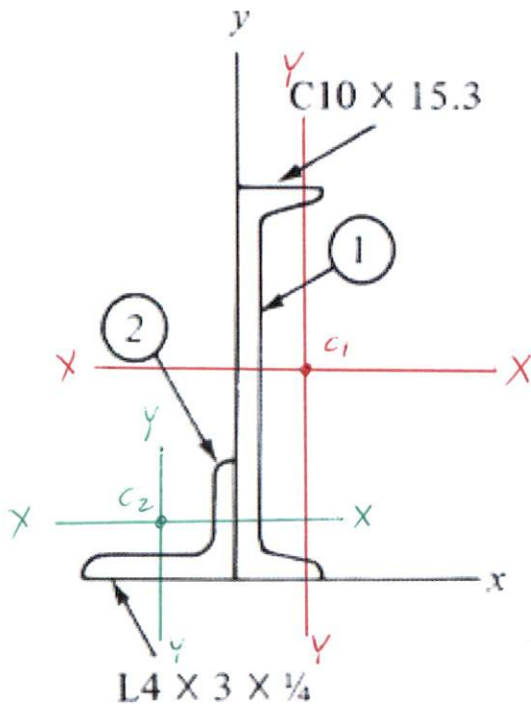
Solution.

	Shape	A (in ²)	x (in)	Ax (in ³)	y (in)	Ay (in ³)
Σ						

CMGT 340 - Quiz #11

NAME: Solution

1. Find the centroid of the built-up structural steel member with respect to the given reference axis.



Solution.

	Shape	A (in ²)	x (in)	Ax (in ³)	y (in)	Ay (in ³)
①	C10 x 15.3	4.49	0.634	2.8467	5	22.45
②	L 4 x 3 x 1/4	1.69	-1.24	-2.0956	0.736	1.2438
Σ		6.18		0.7511		23.6938

$$\bar{x} = \frac{\sum Ax}{\sum A} = \frac{0.7511}{6.18} = \underline{\underline{0.121 \text{ in}}}$$

$$\bar{y} = \frac{\sum Ay}{\sum A} = \frac{23.6938}{6.18} = 3.83 \text{ in}$$

C (0.121 in, 3.83 in)