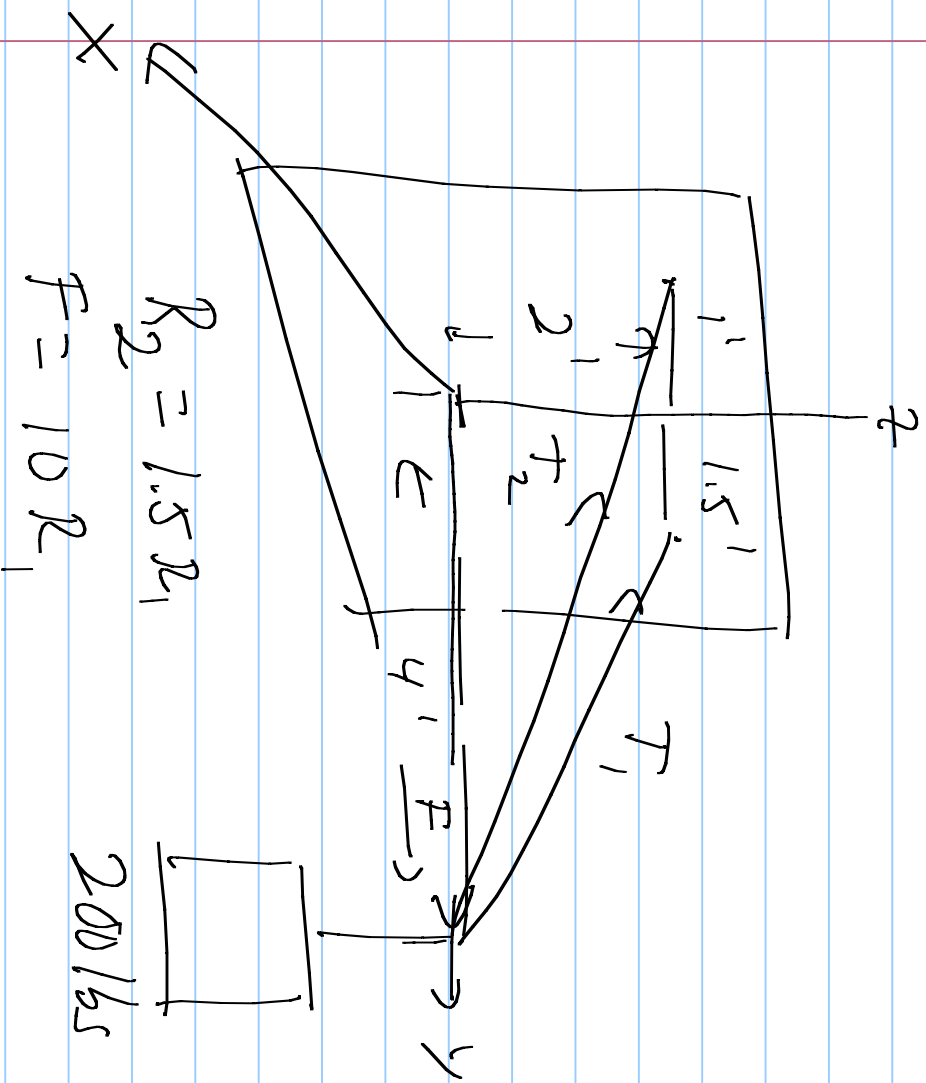


EGR 180 6/4



$$\vec{F}_1 = (-1.5\hat{i} - 4\hat{j} + 2\hat{k}) R_1$$

$$\vec{F}_2 = (\hat{i} - 4\hat{j} + 2\hat{k}) R_2$$

$$\vec{F} = F\hat{j}$$

$$\sum F_x = -1.5R_1 + R_2 = 0$$

$$\sum F_y = -4R_1 - 4R_2 + F = 0$$

$$\sum F_z = 2R_1 + 2R_2 - 200 = 0$$

$$2R_1 + 3R_2 = 200$$

$$5R_1 = 200$$

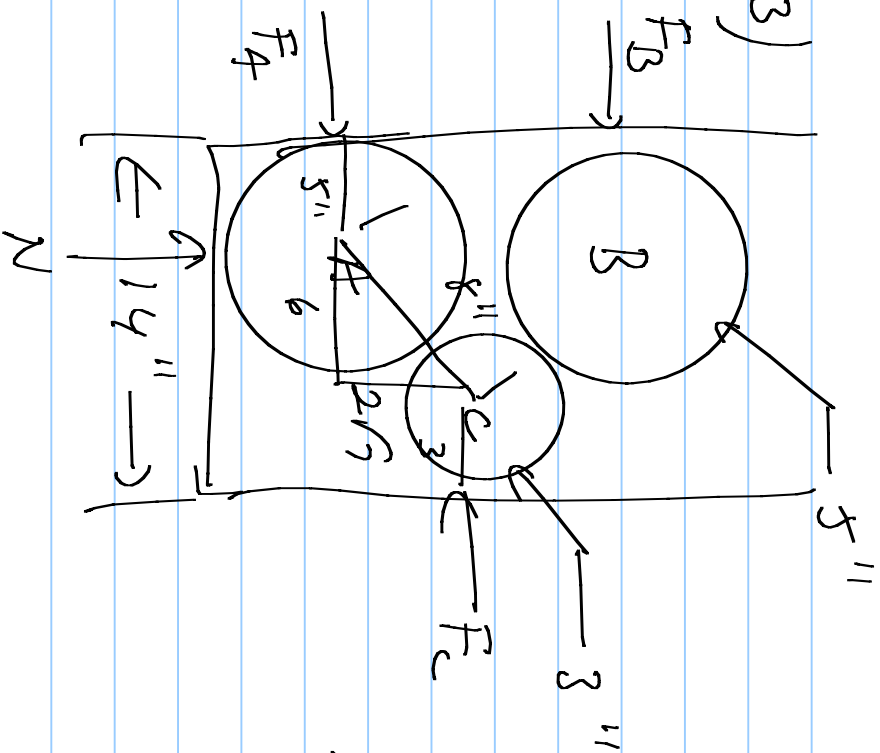
$$R_1 = 40 \text{ lbs} \quad R_2 = 60 \text{ lbs} \quad F = 400 \text{ lbs}$$

$$T_1 = 188.7 \text{ lbs}$$

$$T_2 = 275.0 \text{ lbs}$$

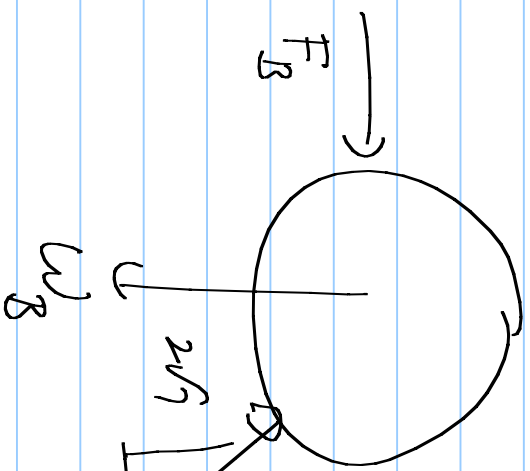
$$F = 400 \text{ lbs}$$

3-33)



$$W_A = W_B = 350 \text{ lb}$$

$$W_C = 225 \text{ lb}$$



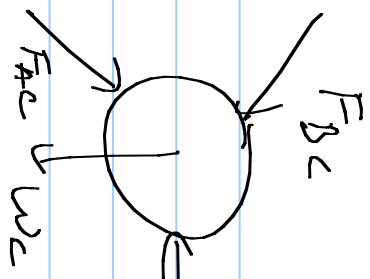
$$\sum F_y = -350 + 2\sqrt{3}R_{BC}$$

$$R_{BC} = \frac{350}{2\sqrt{3}}$$

$$F_{BC} = (6^2 + 2\sqrt{3})^2 R_{BC}$$

$$\sum F_x = -F_B + F_{BC}$$

$$F_B = \frac{1050}{\sqrt{3}} \text{ lbs}$$



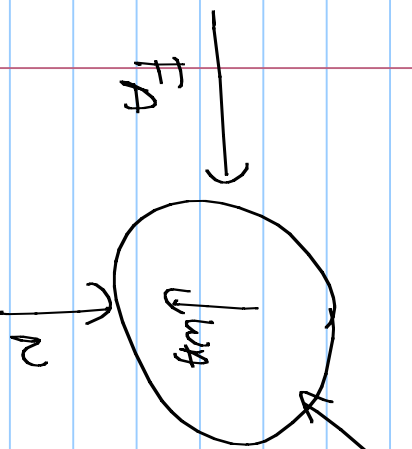
$$\sum F_y = -2\sqrt{3} \frac{350}{2\sqrt{3}} - 225 + 2\sqrt{3} R_{Ac} = 0$$

$$R_{Ac} = \frac{575}{2\sqrt{3}} \quad 165$$

$$\sum F_x = -F_c + 6F_{Bc} + 6F_{Ac} = 0$$

$$F_c = \frac{1050}{\sqrt{3}} + \frac{1225}{\sqrt{3}} = \frac{2275}{\sqrt{3}} \quad 135$$

$F_B = 396.9135$ $F_c = 1648.915$ $F_A = 652.0135$
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$$\sum F_x = F_A - 6 \frac{575}{2\sqrt{3}} = 0$$

$$F_A = \frac{1725}{\sqrt{3}} \quad 165$$

Exam 1

Monday

1. In class

2pm

After 10pm

2. Take home

Urban + Boone → Testing Center

Arleny - Pick it up in Exam Room

Chpts 2+3

Free Body Diagram 2D or 3D

2 or more forces \rightarrow Resultant

A force \rightarrow Components

System \rightarrow Equil,ilibrium $\begin{matrix} = \\ 4 \text{ to } 6 \text{ problems} \\ = \end{matrix}$

Diagram

Do the algebra, don't manipulate numbers

1. - -

6pt problem \rightarrow 1pt for the correct
answer

Spots for working out.

