Show all work for full credit
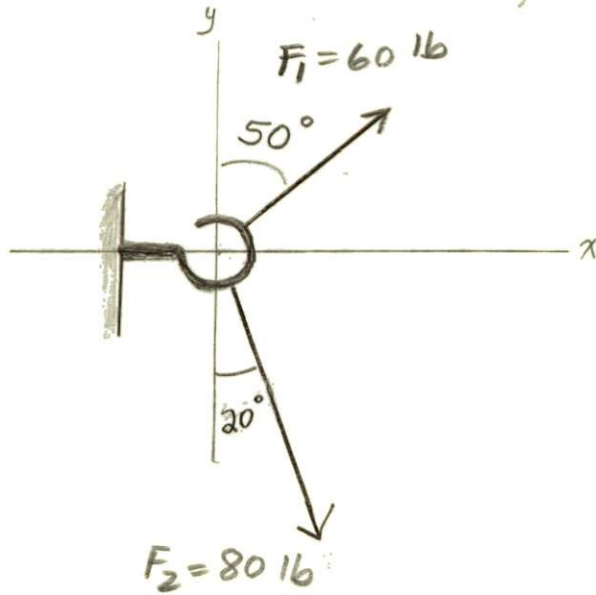All angles are to be measured ccw from the + x-axis
All vector answers are to be positive scalar, true direction

One page of notes, Front & Back, Hand written by You
Algebra & Trig cheat sheets

Name _____

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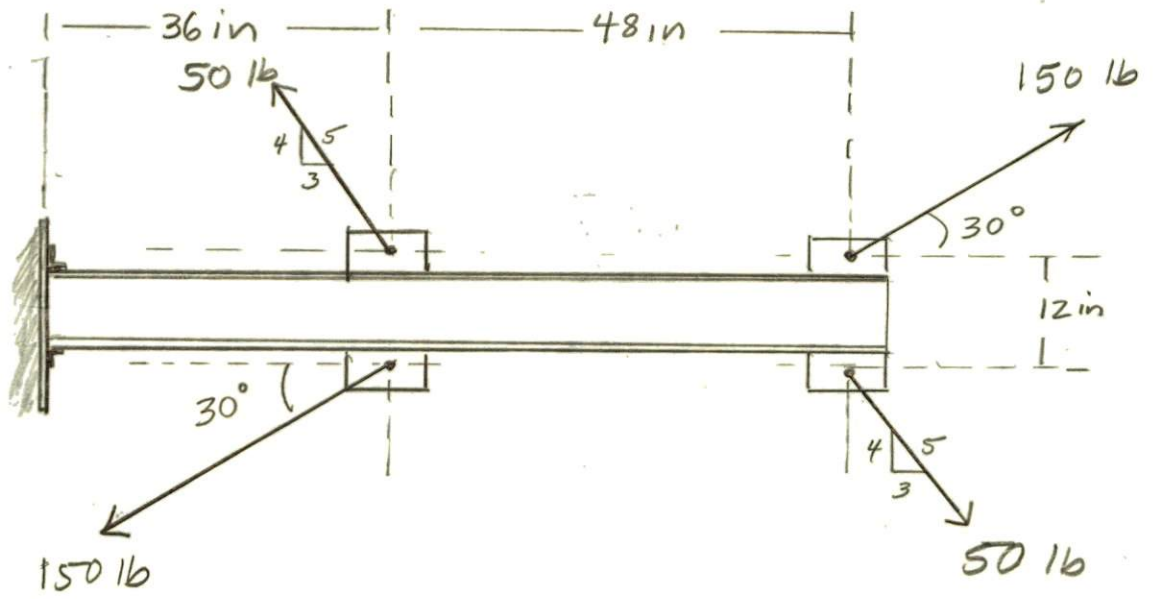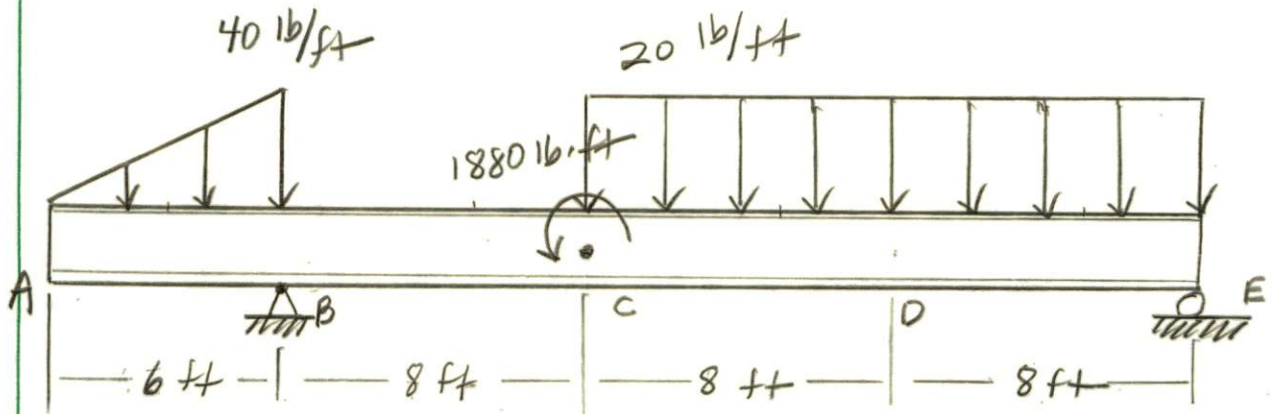
1. Determine the magnitude of the resultant force and its direction for the forces acting on the hook using the parallelogram Law OR Triangle Rule.

$F_1 = 60$ lb
$50°$

x

y

$20°$

$F_2 = 80$ lb

1.

2. Determine the moment couple for the forces acting on the cantilever beam.

36 in   48 in

50 lb   4 5 3

150 lb   30°

12 in

30°   150 lb

50 lb   4 5 3

2.

3. A simply supported beam supports the applied loads and moments as shown. Determine the reactions at the supports.

40 lb/ft

20 lb/ft

1880 lb·ft

A | B | C | D | E

| 6 ft | 8 ft | 8 ft | 8 ft |

Solution.

A   C   D   E

FBD

Equilibrium Equations

4. Determine the tension in each cable using the Force Triangle method.

35°

45°

900 lb

4.