

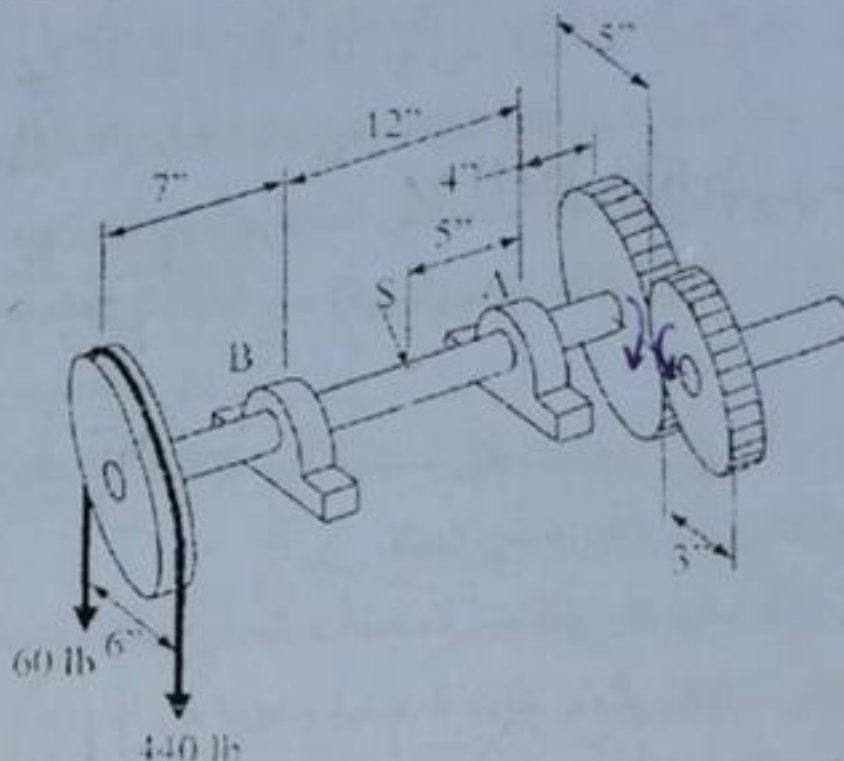
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| الامتحان النهائي خريف 2022 | كلية الهندسة - جامعة مصراتة |
| التاريخ: 2023/02/05 ف | اسم المقرر: تصميم اجزاء الات 2 رقم المقرر: هـ . مك 405 |
| الزمن: 3 ساعات | القسم: الهندسة الميكانيكية |

(Answer all the following questions)

1. Power is transmitted to a shaft through a pair of gears, with 20 degree pressure angle and pitch diameter as shown. The shaft rotates at a constant speed of 1200 rpm. Power is subsequently transmitted to a belt drive having a sheave diameter and forces as shown.

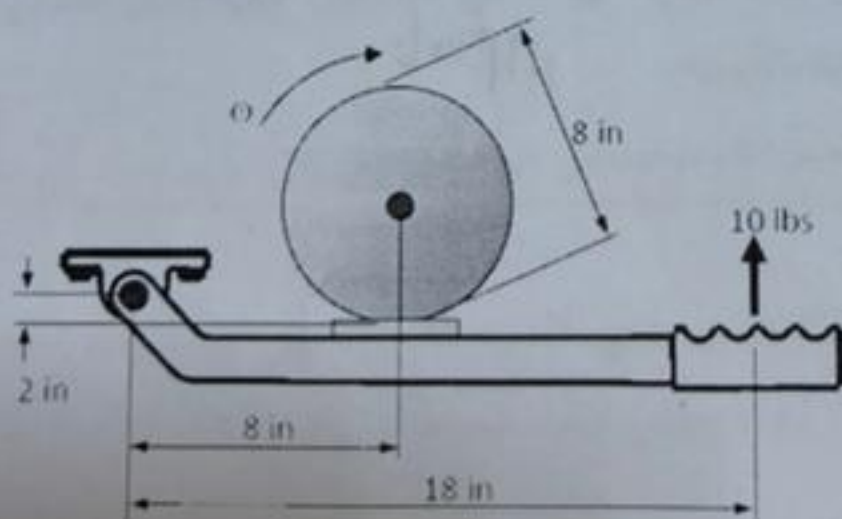
Determine:

- The torque on the shaft
- The power transmitted through the shaft
- The bending point at the point labeled S
- The radial supporting force at bearing B



2. For the block brake shown, determine the maximum braking torque that can be provided.

The kinetic coefficient of friction between the brake pad and the drum is 0.30. (10 points)



$$X = 2522.31$$

$$Z = 387.24$$