King Fahd University of Petroleum & Minerals
DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

CE 203 STRUCTURAL MECHANICS I (Section 2)

Second Semester 1435 / 2014 (132)

Name:_____
ID #: _____

Quiz # 12

Score ____ / 10

Rewrite the solution of the problem below from the HW that you just did (without looking at your solution).
The 50-mm-diameter rod is subjected to the loads shown. Determine the state of stress at point A.

$\sigma = \pm F_x / A_x$

$\sigma = \pm M_z y / I_z$

$\sigma = \pm M_y z / I_y$

OR SIMILAR FOR DIFFERENT AXES

$$\tau = \frac{Tr}{J} \qquad \tau = \frac{VQ}{Ib}$$

$$J = \frac{\pi}{2} r^4 \qquad J = \frac{\pi}{2}(r_{out}^4 - r_{in}^4)$$

$$I = \frac{\pi}{4} r^4 \qquad I = \frac{\pi}{4}(r_{out}^4 - r_{in}^4)$$