14-22)

A spur gearset has **17 teeth** on the pinion and **51 teeth** on the gear. The pressure angle **is 20°** and the overload factor **Ko = 1.** The diametral pitch **is 6 teeth/in** and the **face width is 2 in**. The pinion speed is **1120 rev/min** and its cycle life is to be **108 revolutions** at a reliability **R = 0.99**. The quality **number is 5**. The material is a through-hardened **steel**, **grade 1**, with Brinell hardnesses of **232** core and **case** of both gears. For a **design factor of 2**, rate the gearset for these conditions using the AGMA method.

