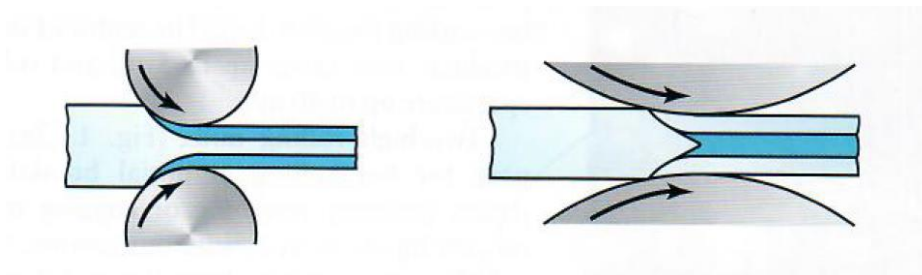


注意事項：（1）本試題共有 5 題，全部作答，合計一百分。（2）請依序作答於答案卷上並註明題號。（3）不可使用計算機，close book。

1. (a) Please show the indenters of Brinell Test, Vickers Test, and Rockwell Test. (10%)
(b) Please show the symbols of the mentioned test shown in (a). (10%)
2. (a) Please explain the use of chip breaker. (10%)
(b) Please show two types of chip breaker. (10%)
3. Please briefly show the manufacturing process of investment-casting (lost-wax) process. (20%)
4. In cold rolling of plates shown in the following figures, please draw the distribution of residual stresses of the two figures. (20%)



5. The orthogonal cutting shown in the following figure, please derive the relationship between cutting ratio (a_c/a_0) and the shear angle ϕ . α is the rake angle. (20%)

