1. (a) DEFECTS

Metals yield at a stress much lower than those calculated on the basis of their bond strength alone. This is explained by the presence of defects. Identify the principal defects responsible for this observation.

1. Grain Boundaries
2. Interstitial Metal Atoms
3. Vacancies
4. Dislocations

1.) (b) DEFECTS IN GOLD

You have a single crystal of 100% pure gold. Identify which of the following defects you would expect to be present at room temperature.

1. Free surface
2. Grain Boundaries
3. Vacancies
4. Inclusions
5. Substitutional impurity atoms
6. Interstitial impurity atoms.

## RATE OF REACTION



## RATE OF REACTION









## HALF-LIFE



## URBIUM OXIDE



1. 

(b)





## YOUNG'S MODULUS

##

## Metals

## Plastics

## Ceramics

## ELONGATION

## A steel cable 10 m long is pulled in tension with a stress of 350 MPa. Assume that the Young's modulus of the steel cable is about 200 GPa. If only elastic deformation occurs, what is the resultant elongation in cm?

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