### QUESTION

An earthquake off the coast of British Columiba measured 4.2 on the Richter Scale. If an earthquake occured in Mexico that was 1500 times more powerful than the BC quake, what was its Richter scale reading?

## Answer

M<sub>MX</sub>= 7.376 Richter scale reading in Mexico

# **Explanation**

Let  $M_{BC} = 4.2$  Richter scale reading M<sub>Mx</sub> = Richter scale reading in Mexico

### Required :

 $M_{MX} = ?$ 

### Solution:

 $M_{BC} = \log(I_{BC}/S) = 4.2$  $M_{\text{MX}} = log(I_{\text{MX}}/S) \ ; \ I_{\text{MX}} = 1500I_{\text{BC}}$ M<sub>MX</sub>= 7.376