

30. Incorrect. The answer is true not false. The expected marginal benefit of abatement is

$$\begin{aligned} E(\text{MB}) &= \sum \text{MB}_i * P(\text{MB}_i) \\ &= \text{MB}_1 * 0.6 + \text{MB}_2 * 0.4 \\ &= (50 - 0.3A) * 0.6 + (100 - 0.8A) * 0.4 \\ &= 70 - 0.5A \end{aligned}$$

The expected marginal cost of abatement is

$$\begin{aligned} E(\text{MC}) &= \sum \text{MC}_i * P(\text{MC}_i) \\ &= \text{MC}_1 * 0.3 + \text{MC}_2 * 0.2 + \text{MC}_3 * 0.5 \\ &= (20 + 0.1A) * 0.3 + (10 + 0.15A) * 0.2 + (30 + 0.2A) * 0.5 \\ &= 6 + 0.03A + 2 + 0.03A + 15 + 0.1A = 23 + 0.16A \end{aligned}$$

Setting $\text{MB} = \text{MC}$, we can get optimal level of abatement.

$$\begin{aligned} 75 - 0.5A &= 23 + 0.16A \\ 0.66A &= 47 \\ A &= 71.21 \end{aligned}$$