

30. Correct. The answer is true. The expected marginal benefit of abatement is

$$\begin{aligned} E(MB) &= \sum MB_i * P(MB_i) \\ &= MB_1 * 0.6 + MB_2 * 0.4 \\ &= (50 - 0.3A) * 0.6 + (100 - 0.8A) * 0.4 \\ &= 70 - 0.5A \end{aligned}$$

The expected marginal cost of abatement is

$$\begin{aligned} E(MC) &= \sum MC_i * P(MC_i) \\ &= MC_1 * 0.3 + MC_2 * 0.2 + MC_3 * 0.5 \\ &= (20 + 0.1A) * 0.3 + (10 + 0.15A) * 0.2 + (30 + 0.2A) * 0.5 \\ &= 6 + 0.03A + 2 + 0.03A + 15 + 0.1A = 23 + 0.16A \end{aligned}$$

Setting $MB=MC$, we can get optimal level of abatement.

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