

**169.** The distribution of a loss,  $X$ , is a two-point mixture:

- (i) With probability 0.8,  $X$  has a two-parameter Pareto distribution with  $\alpha = 2$  and  $\theta = 100$ .
- (ii) With probability 0.2,  $X$  has a two-parameter Pareto distribution with  $\alpha = 4$  and  $\theta = 3000$ .

Calculate  $\Pr(X \leq 200)$ .

- (A) 0.76
- (B) 0.79
- (C) 0.82
- (D) 0.85
- (E) 0.88