

152. Key: A

The probability that Rahul examines exactly  $n$  policies is  $0.1 \cdot 0.9^{n-1}$ . The probability that Toby examines more than  $n$  policies is  $0.8^n$ . The required probability is thus

$$\sum_{n=1}^{\infty} 0.1 \cdot 0.9^{n-1} \cdot 0.8^n = \frac{1}{9} \sum_{n=1}^{\infty} 0.72^n = \frac{0.72}{9 \cdot 1 - 0.72} = 0.2857 .$$