

57. An actuary determines that the claim size for a certain class of accidents is a random variable, X , with moment generating function

$$M_X(t) = \frac{1}{(1 - 2500t)^4} .$$

Determine the standard deviation of the claim size for this class of accidents.

- (A) 1,340
- (B) 5,000
- (C) 8,660
- (D) 10,000
- (E) 11,180