Practice worksheet | Continuous probability and normal distributions

Mean, variance and standard deviation for continuous models

Name: _____ Date: _____

6 questions | 14 marks

1. For density $3x^2$ on $[0, 1]$, find $\mathrm{E}(X)$. [2 marks]

2. For density $3x^2$ on $[0, 1]$, find $\mathrm{E}(X^2)$ and variance. [3 marks]

3. Find the mean and variance of a uniform variable on $[0, 6]$. [2 marks]

4. For $\mathrm{E}(X) = \frac{2}{3}$ and $\mathrm{Var}(X) = \frac{1}{18}$, find the mean and variance of $5 - 2X$. [2 marks]

5. A length has variance 0.04 square metres. Find its standard deviation. [2 marks]

6. For density $\frac{1}{2}$ on $[-1, 1]$, find mean and variance. [3 marks]