Practice worksheet | Continuous probability and normal distributions

Interval probabilities by integration

Name: _____ Date: _____

6 questions | 14 marks

1. For density $2x$ on [0,1], find $P(0.3 < X < 0.9)$. [2 marks]

2. For density $3x^2$ on [0,1], find $P(X < 0.2)$. [2 marks]

3. A waiting time is uniform on [0,12] minutes. Find the chance of waiting between 3 and 8 minutes. [2 marks]

4. For density $6x(1-x)$ on $[0,1]$, find $P(1/4 < X < 3/4)$. [3 marks]

5. For density $2x$ on $[0,1]$, find $P(X > 0.6 \mid X > 0.3)$. [3 marks]

6. Explain why including either endpoint of a continuous interval does not change its probability. [2 marks]