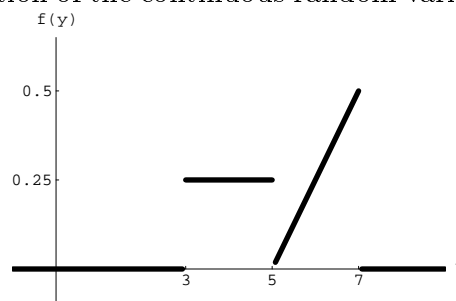


Due Tuesday, Oct 30

Solve the following problems and staple your solutions to this cover sheet.

1. Exercise 4.12
2. Exercise 4.20
3. Exercise 4.24
4. Exercise 4.31
5. Exercise 4.35
6. Exercise 4.43
7. Exercise 4.46
8. Exercise 4.57
9. The probability density function of the continuous random variable Y is graphed below.



Find the following.

- (a) $P(3.5 < Y < 5)$
 - (b) $P(4 < Y < 6)$
 - (c) Find the number b such that the maximum value of $P(y < Y < y + 1)$ over all possible values of y is $P(b < Y < b + 1)$. You may justify your answer graphically.
10. Let Y be an exponential random variable with mean $\mu = \beta$ and variance $\sigma^2 = \beta^2$. Find $P(|Y - \mu| \leq 2\sigma)$.