Homework 5

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1. (a) To be a valid CDF, we know that the terms continuously build until they sum to 1. In this case, all of the terms become 1 at $v = 10$. Thus, we can take the sum as:

$$c\sum_{n=2}^{9}(v-2)^2 = 1$$

Iterating, we find:

$$c(0+1+4+9+16+25+36+49) = 1$$

This gives us:

$$\boxed{c = \frac{1}{140}}$$

(b)

(c)

(d)

(e)

2. (a)

(b)

(c)

(d)

(e)

3. (a)

(b)

(c)

(d)

(e)

4. (a)

(b)

(c)

(d)

(e)

6. (a)

(b)

(c) i.

ii.

iii.

iv.

8. (a)

(b)

(c)

(d)

9. (a)

(b)

(c)

(d)

10. (a)

(b)

(c)

11.