* 1. **Median, mode, percentiles.**

|  |  |
| --- | --- |
| Discrete |  |
| Continuous  |  |

* Median:
* Mode:

|  |  |
| --- | --- |
| Discrete |  |
| Continuous  |  |

* Percentiles:
	1. **Tail weight measures.**

|  |  |
| --- | --- |
| Light-tailed |  |
| Heavy-tailed |  |

* Moments:
* Survival function:

|  |  |
| --- | --- |
| X is light-tailed than Y |  |
| X is heavy-tailed than Y |  |

* Hazard rate function

|  |  |
| --- | --- |
| Light-tailed | h(x) is increasing |
| Heavy-tailed | h(x) is decreasing |
| Medium-tailed | h(x) is costant |

* Mean excess loss function

|  |  |
| --- | --- |
| Light-tailed | e(x) is increasing |
| Heavy-tailed | e(x) is decreasing |
| Medium-tailed | e(x) is costant |

* 1. **Risk measures**
* Volume-at-risk measure

 we solve to x then once we have the value of x, x=

* Tail-value-at-risk
	1. **Parametric and scale distributions**

Proving that a function of x of any distribution has the same distribution of function of cx, where c is a constant

1.5

**1.6 Data dependent distribution**

Finding its mass function (the frequency of the data)

**Chapter 2**

**2.1 Ordinary deductible:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CDF | PDF | Mean | MGF |
| Cost per loss  |  |  |  |  |
| Cost per payment  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CDF | PDF | Mean | MGF |
| Cost per loss  |  |  |  |  |
| Cost per payment  |  |  |  |  |

**2.2 Franchise deductible:**

**2.3 Policy limit**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CDF | PDF | Mean | MGF |
|  |  |  |  |  |

**2.4 Coinsurance**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CDF | PDF | Mean | MGF |
|  |  |  |  |  |

**2.5 Inflation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CDF | PDF | Mean | MGF |
|  |  |  |  |  |

**2.6 Combination**

**2.7 Loss elimination ratio**

**2.8 Impact of deductible on the number of payment**

GOAL: Find the distribution of