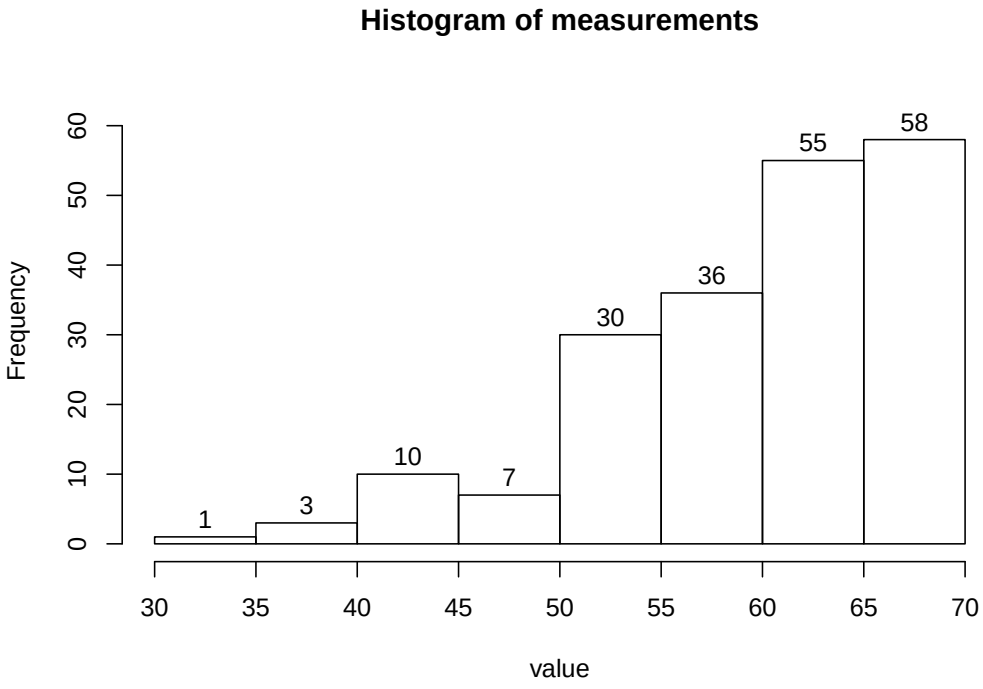
1. **Problem**
   A continuous random variable was measured 200 times. The histogram is shown below.

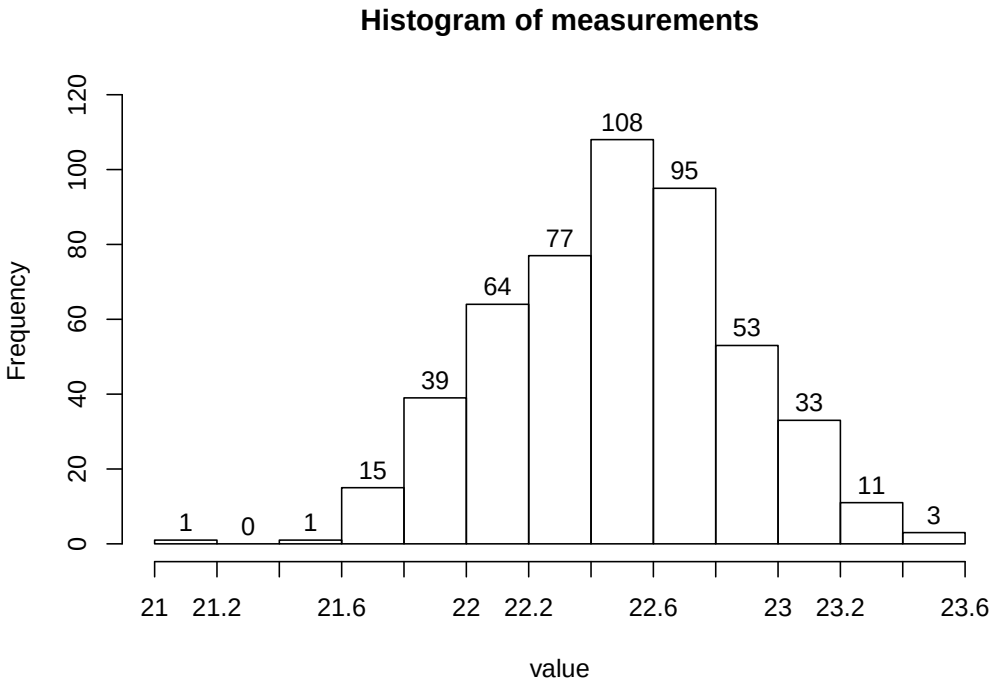


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 40?
   (d) What percent of the measurements are less than 35?
   (e) Of the measurements less than 40, what percent are less than 35?
   (f) Estimate the value of the 43.5th percentile.

Solution

   (a) skew left
   (b) 40
   (c) 2%
   (d) 0.5%
   (e) 25%
   (f) 60

2. **Problem**
A continuous random variable was measured 500 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 22?

(d) What percent of the measurements are greater than 21.2?

(e) Of the measurements less than 22, what percent are greater than 21.2?

(f) Estimate the value of the 90.6th percentile.

Solution

(a) symmetric mound

(b) 2.6

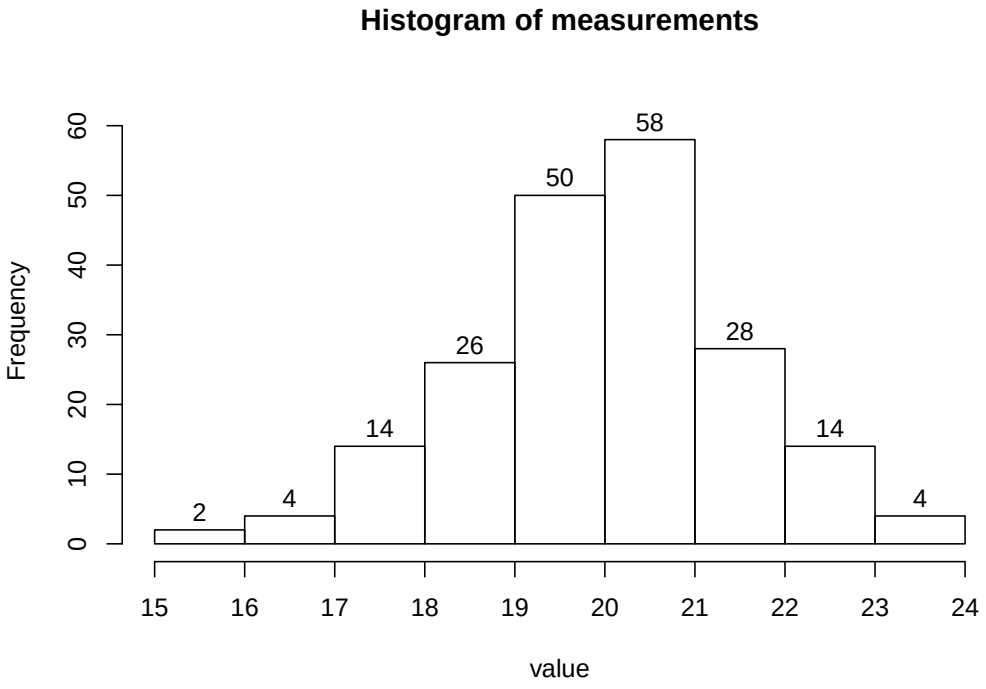
(c) 11.2%

(d) 99.8%

(e) 98.21%

(f) 23

1. **Problem**
   A continuous random variable was measured 200 times. The histogram is shown below.

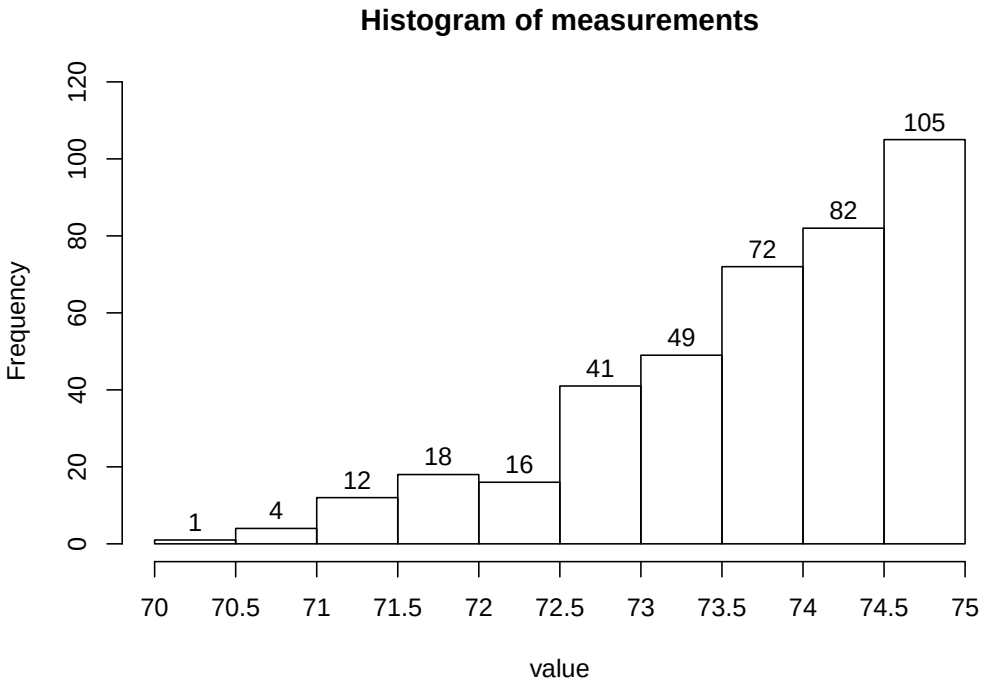


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 17?
   (d) What percent of the measurements are greater than 16?
   (e) Of the measurements less than 17, what percent are greater than 16?
   (f) Estimate the value of the 48th percentile.

Solution

   (a) symmetric mound
   (b) 9
   (c) 3%
   (d) 99%
   (e) 66.67%
   (f) 20

2. **Problem**
A continuous random variable was measured 400 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 71?

(d) What percent of the measurements are less than 73.5?

(e) Of the measurements greater than 71, what percent are less than 73.5?

(f) Estimate the value of the 0.25th percentile.

Solution

(a) skew left

(b) 5

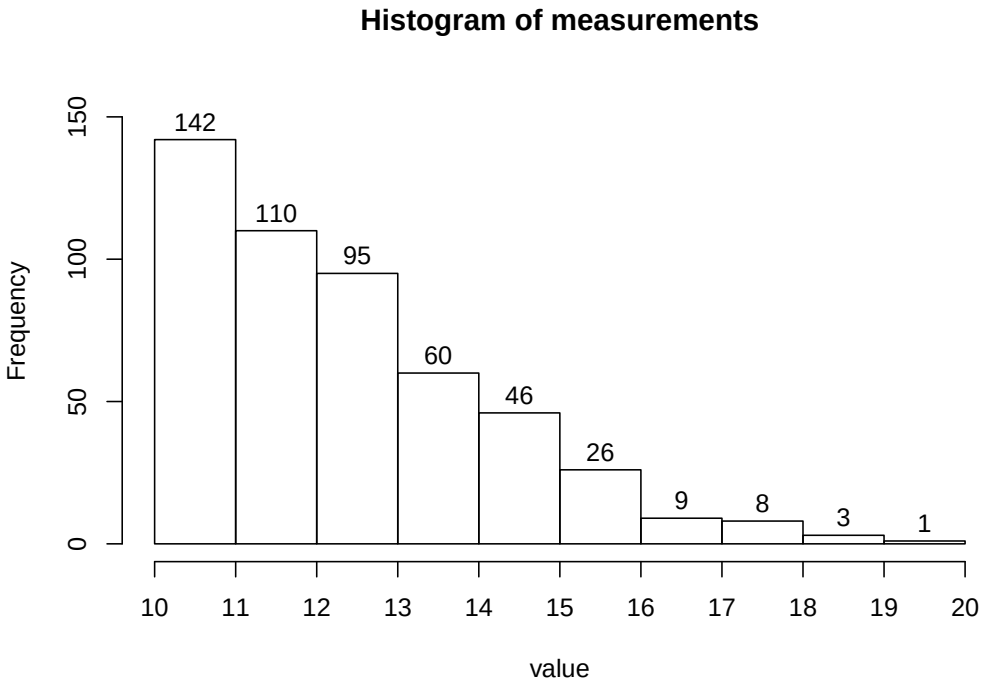
(c) 98.75%

(d) 35.25%

(e) 34.43%

(f) 70.5

1. **Problem**
   A continuous random variable was measured 500 times. The histogram is shown below.

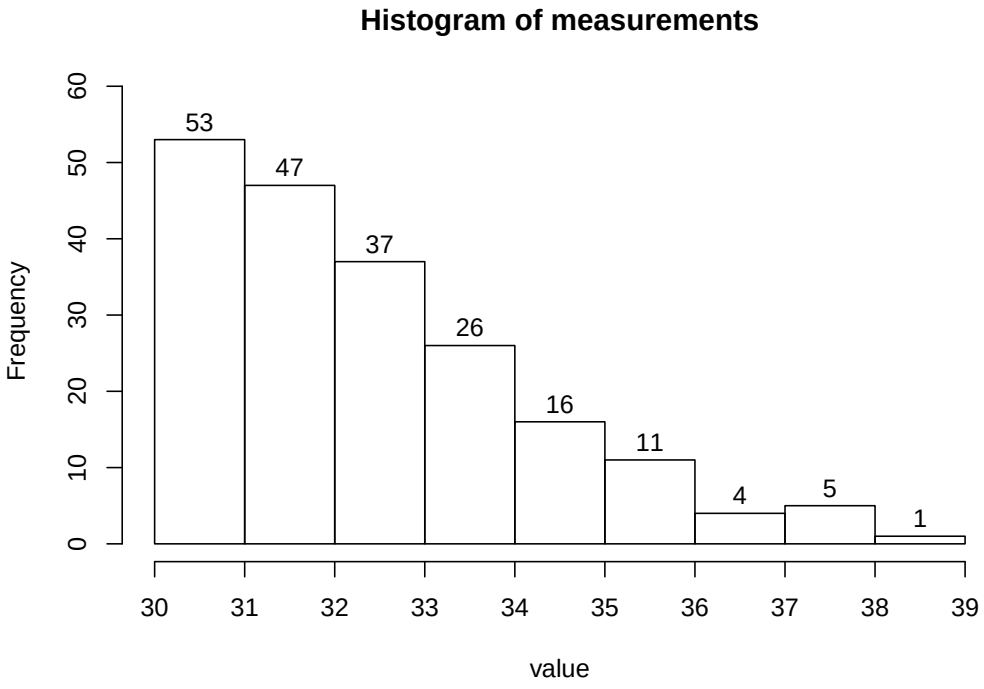


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 12?
   (d) What percent of the measurements are less than 18?
   (e) Of the measurements greater than 12, what percent are less than 18?
   (f) Estimate the value of the 69.4th percentile.

Solution

   (a) skew right
   (b) 10
   (c) 49.6%
   (d) 99.2%
   (e) 98.39%
   (f) 13

2. **Problem**
A continuous random variable was measured 200 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 34?

(d) What percent of the measurements are greater than 38?

(e) Of the measurements greater than 34, what percent are greater than 38?

(f) Estimate the value of the 68.5th percentile.

Solution

(a) skew right

(b) 9

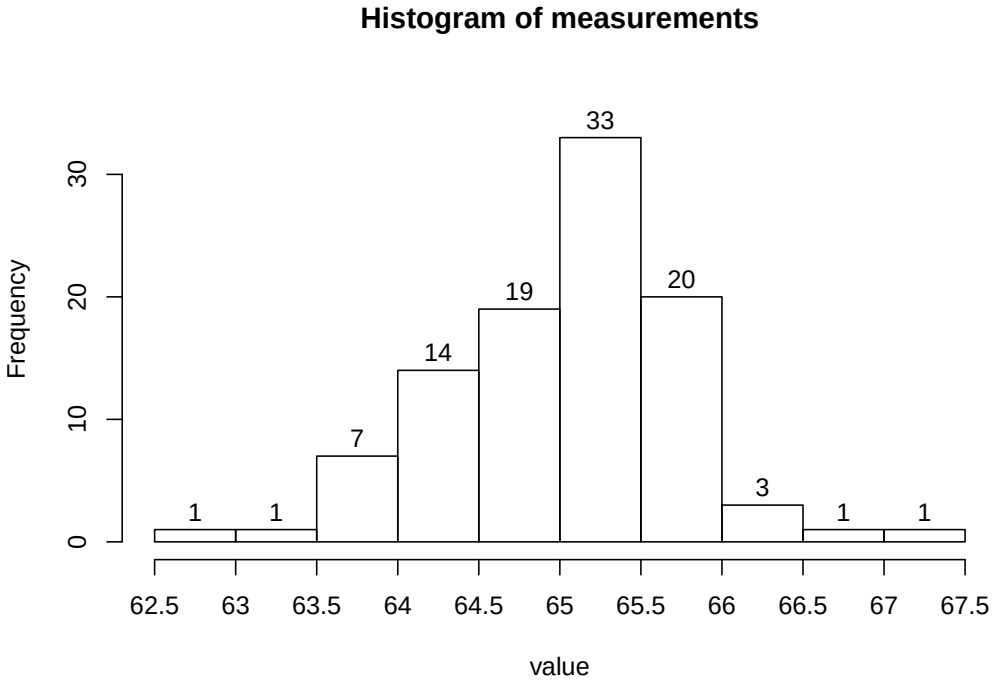
(c) 18.5%

(d) 0.5%

(e) 2.703%

(f) 33

1. **Problem**
   A continuous random variable was measured 100 times. The histogram is shown below.

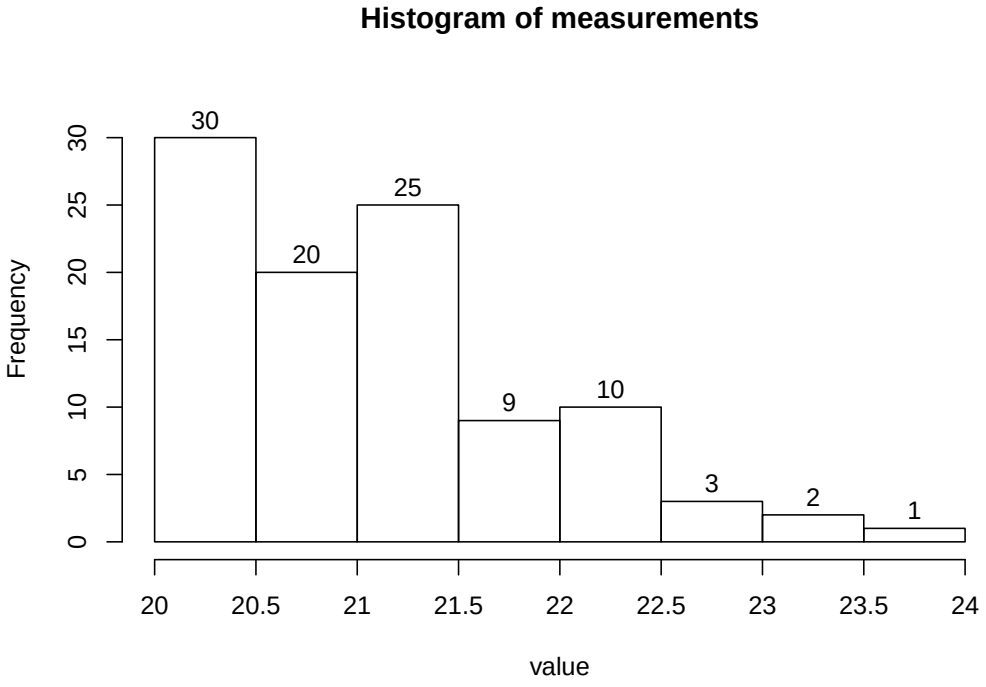


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 65?
   (d) What percent of the measurements are greater than 66?
   (e) Of the measurements greater than 65, what percent are greater than 66?
   (f) Estimate the value of the 9th percentile.

Solution

   (a) symmetric mound
   (b) 5
   (c) 58%
   (d) 5%
   (e) 8.621%
   (f) 64

2. **Problem**
A continuous random variable was measured 100 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 22.5?

(d) What percent of the measurements are less than 23.5?

(e) Of the measurements greater than 22.5, what percent are less than 23.5?

(f) Estimate the value of the 50th percentile.

Solution

(a) skew right

(b) 4

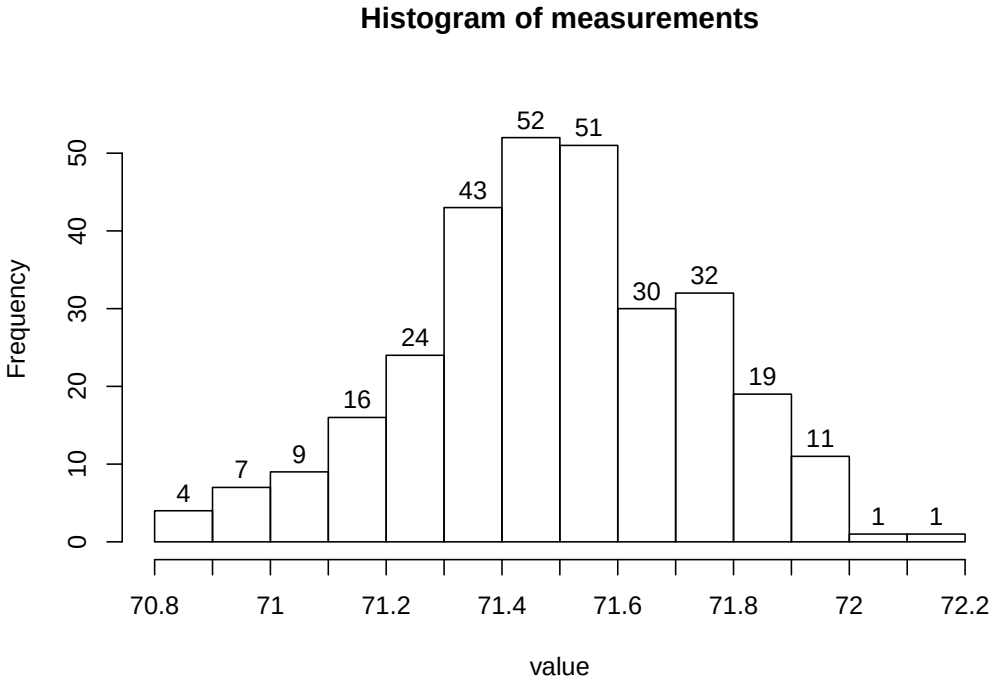
(c) 6%

(d) 99%

(e) 83.33%

(f) 21

1. **Problem**
   A continuous random variable was measured 300 times. The histogram is shown below.

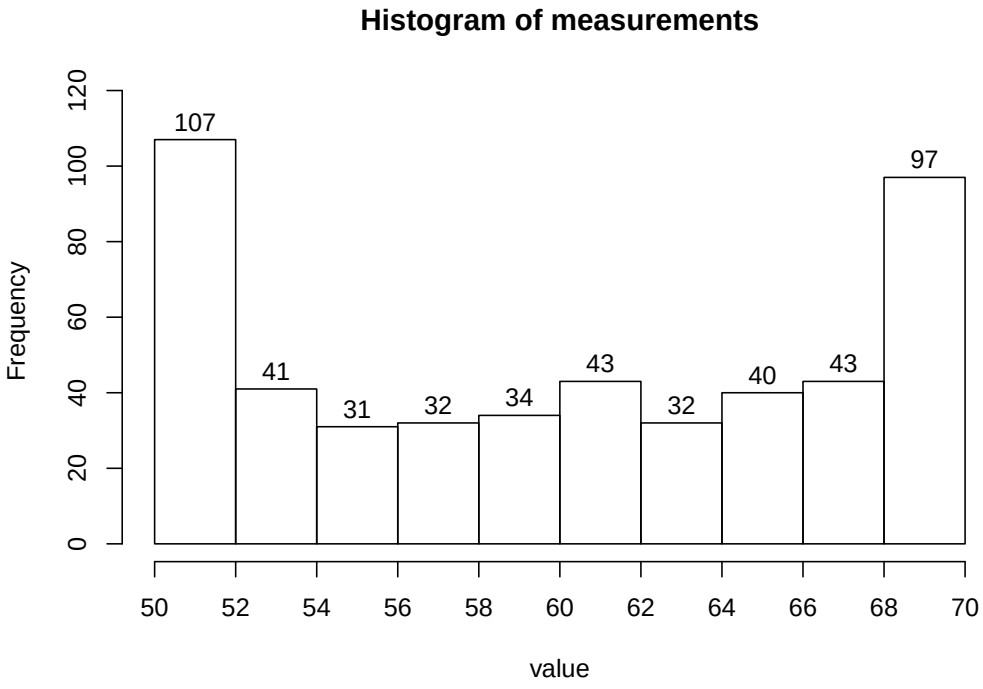


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 71.2?
   (d) What percent of the measurements are greater than 71.7?
   (e) Of the measurements greater than 71.2, what percent are greater than 71.7?
   (f) Estimate the value of the 99.33th percentile.

Solution

   (a) symmetric mound
   (b) 1.4
   (c) 88%
   (d) 21.33%
   (e) 24.24%
   (f) 72

2. **Problem**
A continuous random variable was measured 500 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 58?

(d) What percent of the measurements are greater than 64?

(e) Of the measurements greater than 58, what percent are greater than 64?

(f) Estimate the value of the 49th percentile.

Solution

(a) bimodal

(b) 20

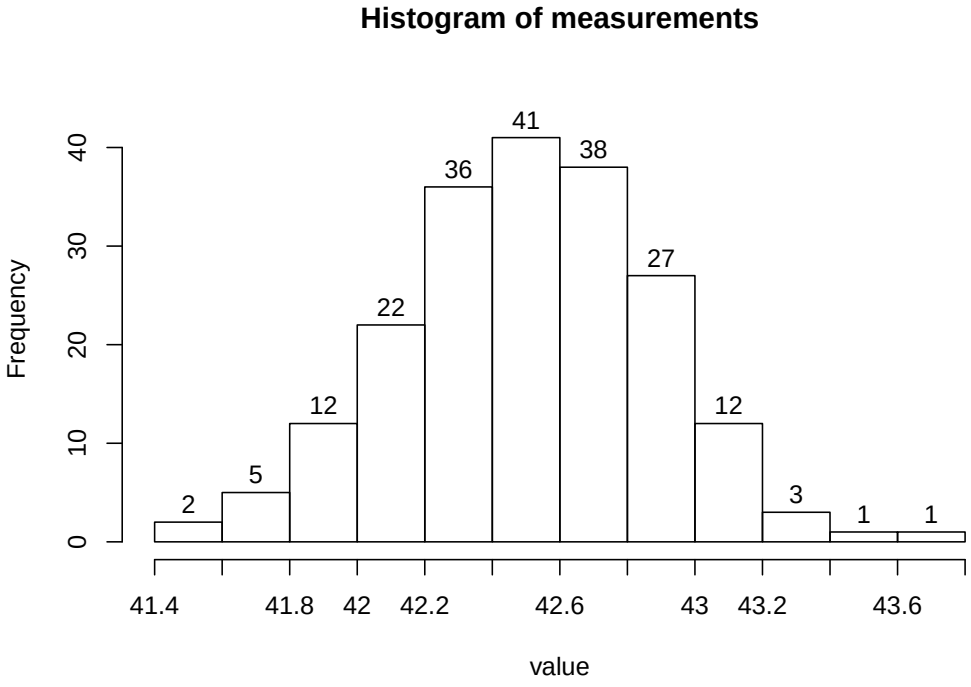
(c) 57.8%

(d) 36%

(e) 62.28%

(f) 60

1. **Problem**
   A continuous random variable was measured 200 times. The histogram is shown below.

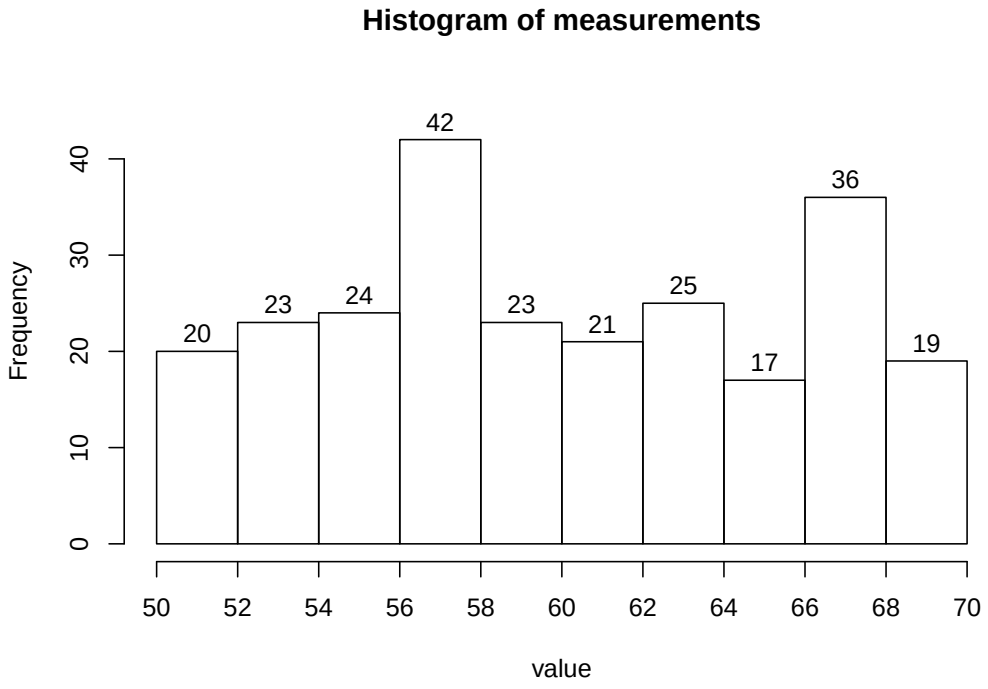


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 43?
   (d) What percent of the measurements are less than 43.6?
   (e) Of the measurements greater than 43, what percent are less than 43.6?
   (f) Estimate the value of the 20.5th percentile.

Solution

   (a) symmetric mound
   (b) 2.4
   (c) 8.5%
   (d) 99.5%
   (e) 94.12%
   (f) 42.2

2. **Problem**
A continuous random variable was measured 250 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 64?

(d) What percent of the measurements are less than 62?

(e) Of the measurements less than 64, what percent are less than 62?

(f) Estimate the value of the 52.8th percentile.

Solution

(a) uniform

(b) 20

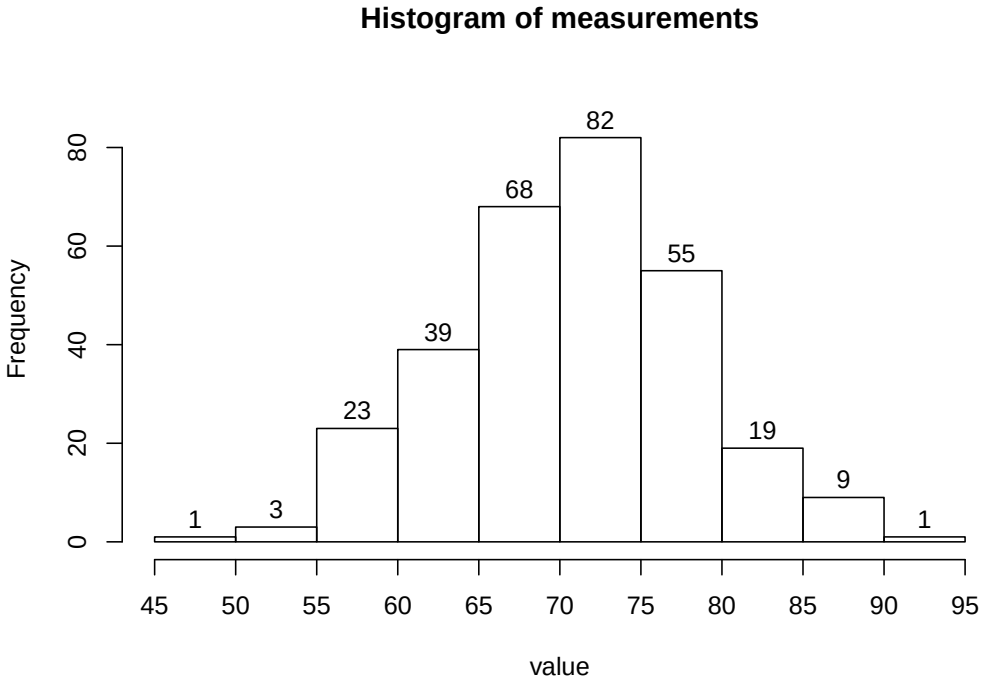
(c) 71.2%

(d) 61.2%

(e) 85.96%

(f) 60

1. **Problem**
   A continuous random variable was measured 300 times. The histogram is shown below.

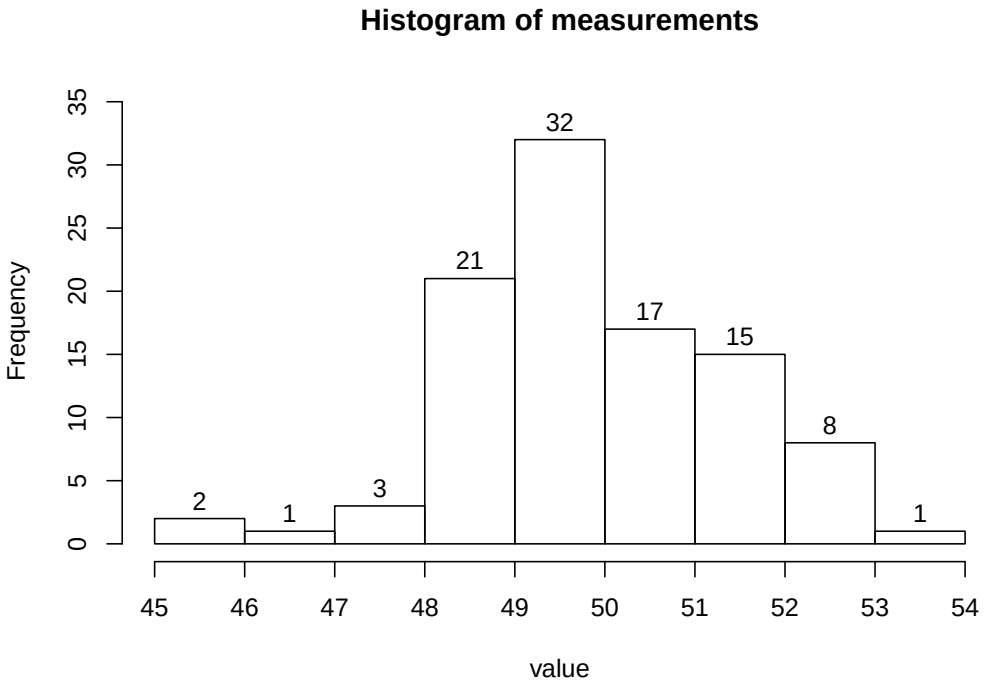


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 70?
   (d) What percent of the measurements are greater than 60?
   (e) Of the measurements less than 70, what percent are greater than 60?
   (f) Estimate the value of the 1.333th percentile.

Solution

   (a) symmetric mound
   (b) 50
   (c) 44.67%
   (d) 91%
   (e) 79.85%
   (f) 55

2. **Problem**
A continuous random variable was measured 100 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 51?

(d) What percent of the measurements are less than 53?

(e) Of the measurements greater than 51, what percent are less than 53?

(f) Estimate the value of the 59th percentile.

Solution

(a) symmetric mound

(b) 9

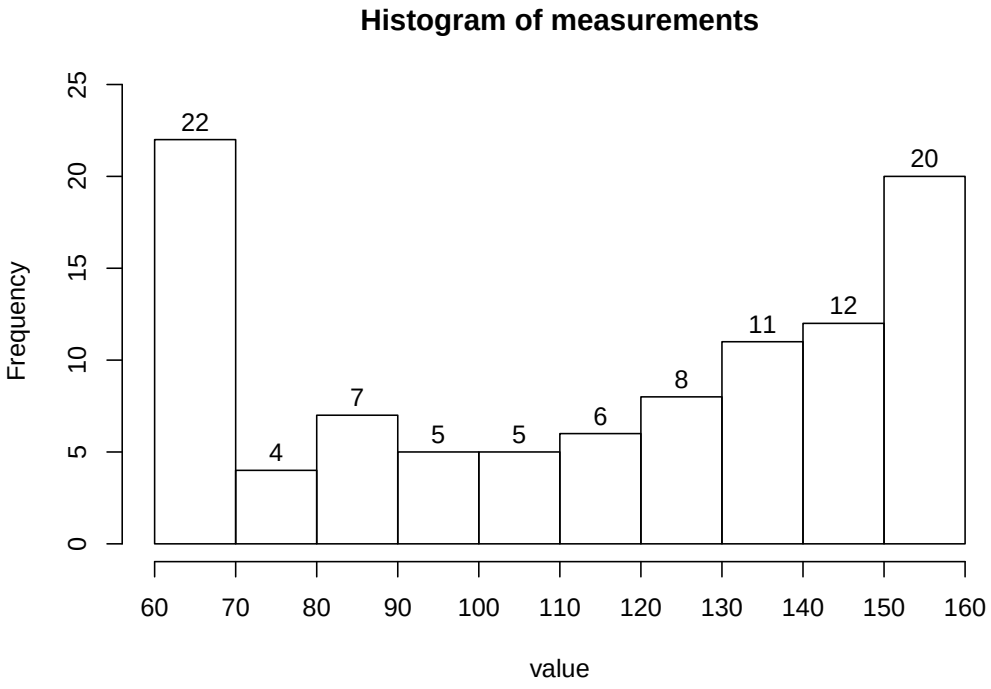
(c) 24%

(d) 99%

(e) 95.83%

(f) 50

1. **Problem**
   A continuous random variable was measured 100 times. The histogram is shown below.

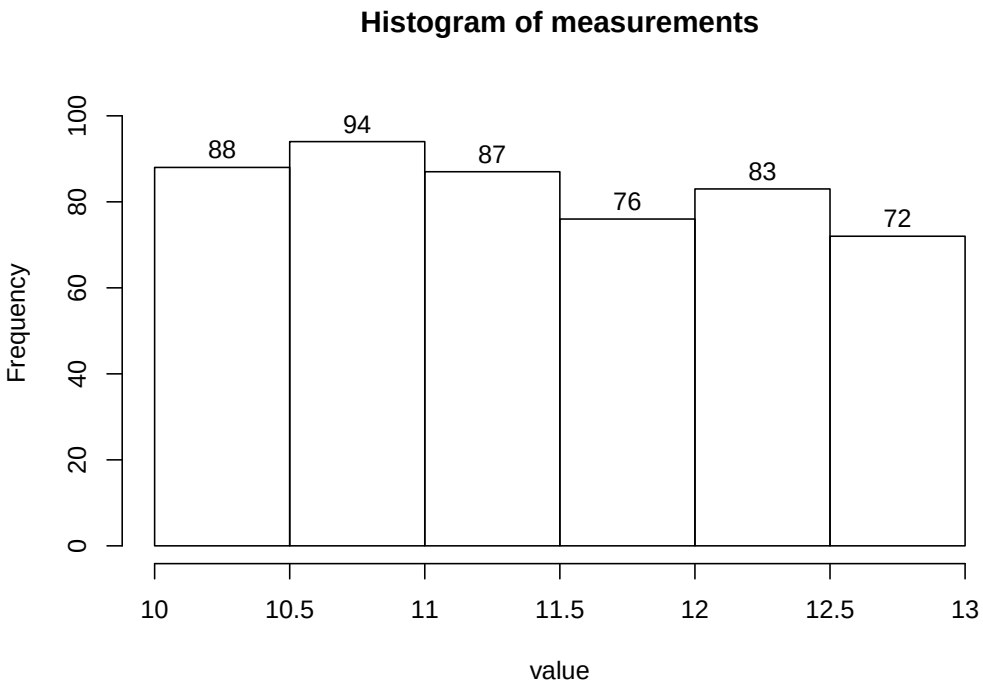


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 120?
   (d) What percent of the measurements are greater than 150?
   (e) Of the measurements greater than 120, what percent are greater than 150?
   (f) Estimate the value of the 43th percentile.

Solution

   (a) bimodal
   (b) 100
   (c) 51%
   (d) 20%
   (e) 39.22%
   (f) 110

2. **Problem**
A continuous random variable was measured 500 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 11?

(d) What percent of the measurements are greater than 12?

(e) Of the measurements greater than 11, what percent are greater than 12?

(f) Estimate the value of the 17.6th percentile.

Solution

(a) uniform

(b) 3

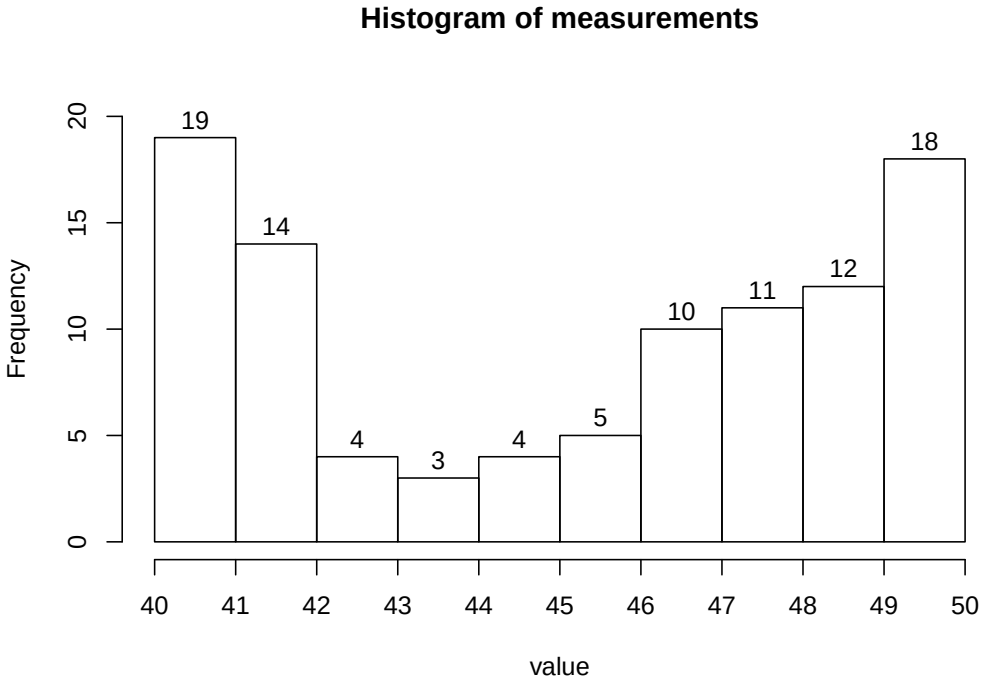
(c) 63.6%

(d) 31%

(e) 48.74%

(f) 10.5

1. **Problem**
   A continuous random variable was measured 100 times. The histogram is shown below.

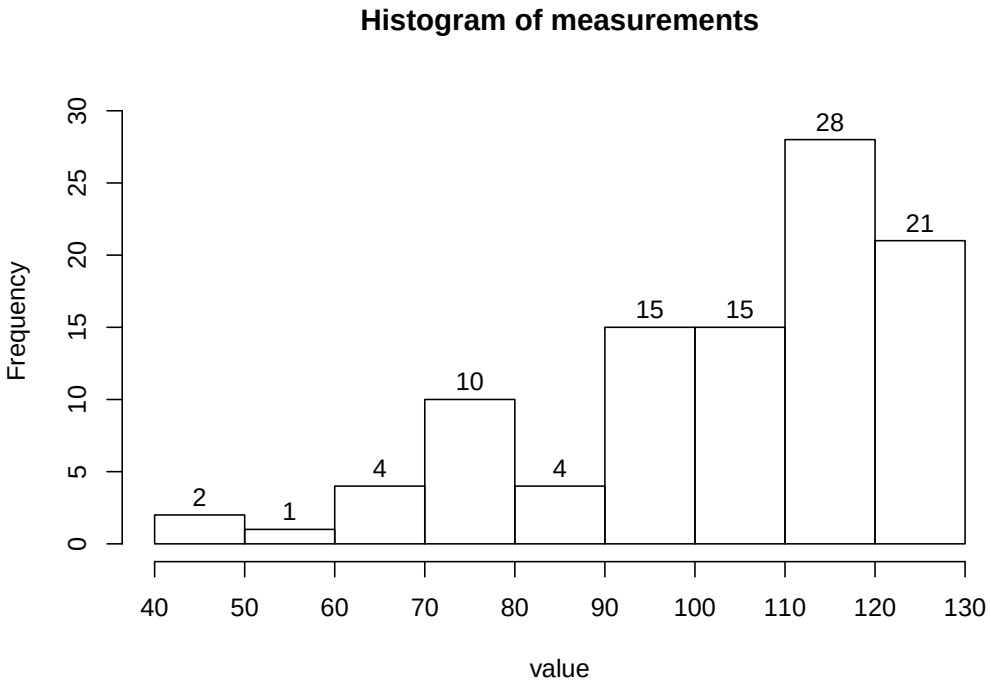


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 45?
   (d) What percent of the measurements are greater than 49?
   (e) Of the measurements greater than 45, what percent are greater than 49?
   (f) Estimate the value of the 59th percentile.

Solution

   (a) bimodal
   (b) 10
   (c) 56%
   (d) 18%
   (e) 32.14%
   (f) 47

2. **Problem**
A continuous random variable was measured 100 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 90?

(d) What percent of the measurements are less than 50?

(e) Of the measurements less than 90, what percent are less than 50?

(f) Estimate the value of the 3th percentile.

Solution

(a) skew left

(b) 90

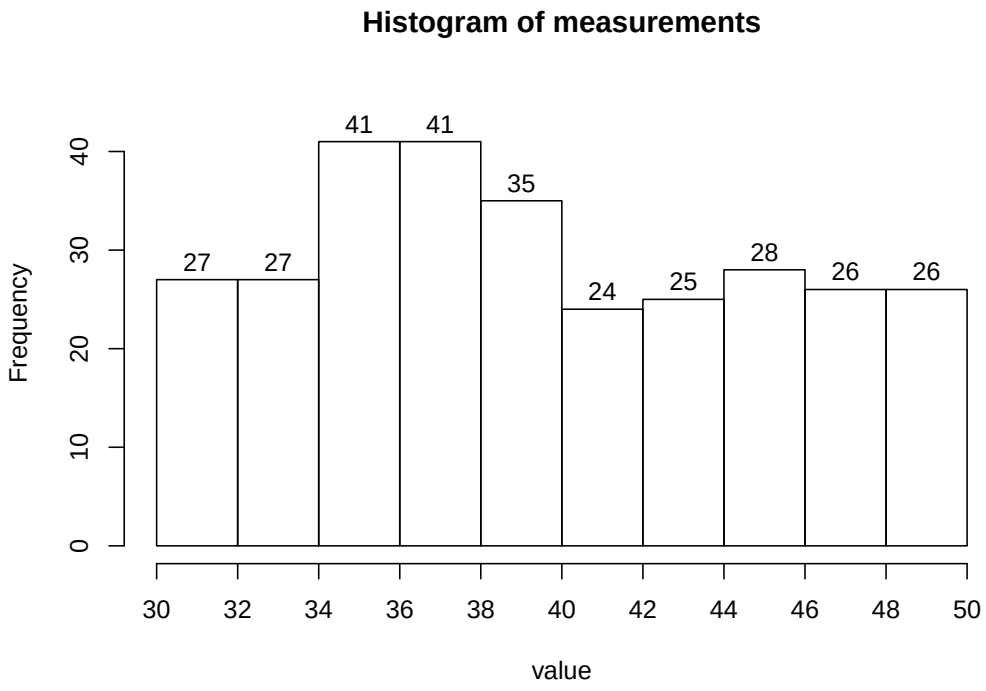
(c) 21%

(d) 2%

(e) 9.524%

(f) 60

1. **Problem**
   A continuous random variable was measured 300 times. The histogram is shown below.

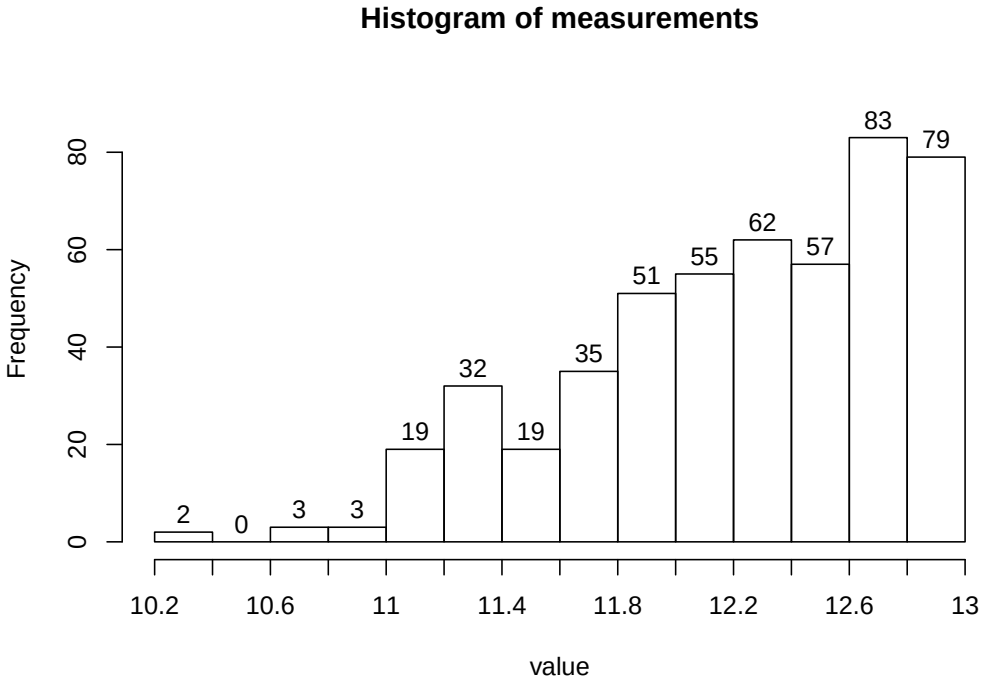


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 42?
   (d) What percent of the measurements are greater than 38?
   (e) Of the measurements less than 42, what percent are greater than 38?
   (f) Estimate the value of the 9th percentile.

Solution

   (a) uniform
   (b) 20
   (c) 65%
   (d) 54.67%
   (e) 30.26%
   (f) 32

2. **Problem**
A continuous random variable was measured 500 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 12.4?

(d) What percent of the measurements are greater than 11.4?

(e) Of the measurements less than 12.4, what percent are greater than 11.4?

(f) Estimate the value of the 5.4th percentile.

Solution

(a) skew left

(b) 2.8

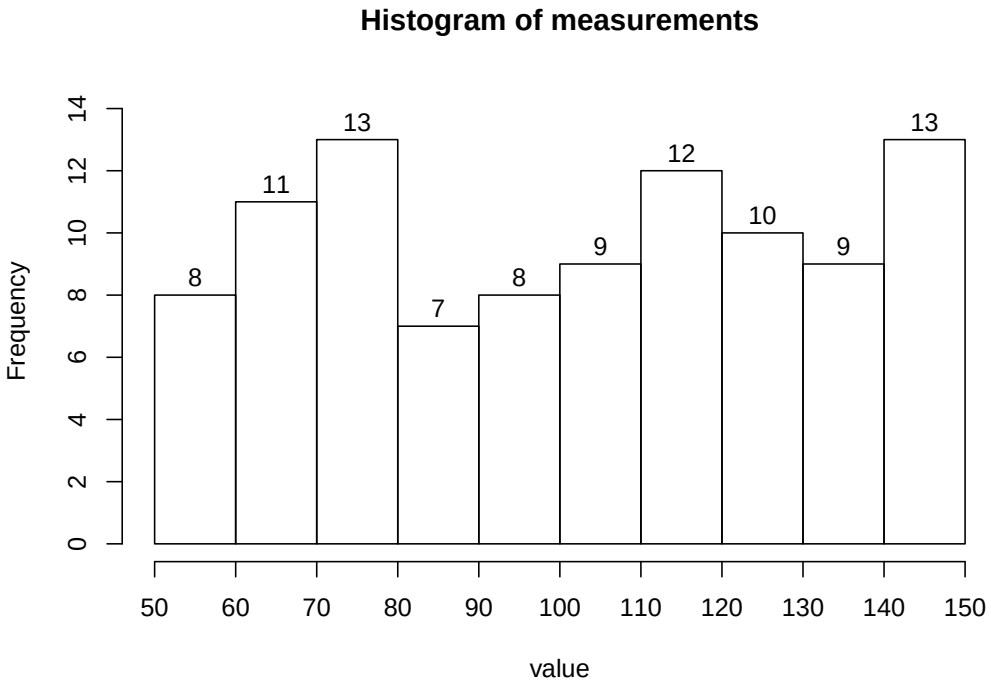
(c) 56.2%

(d) 88.2%

(e) 79%

(f) 11.2

1. **Problem**
   A continuous random variable was measured 100 times. The histogram is shown below.

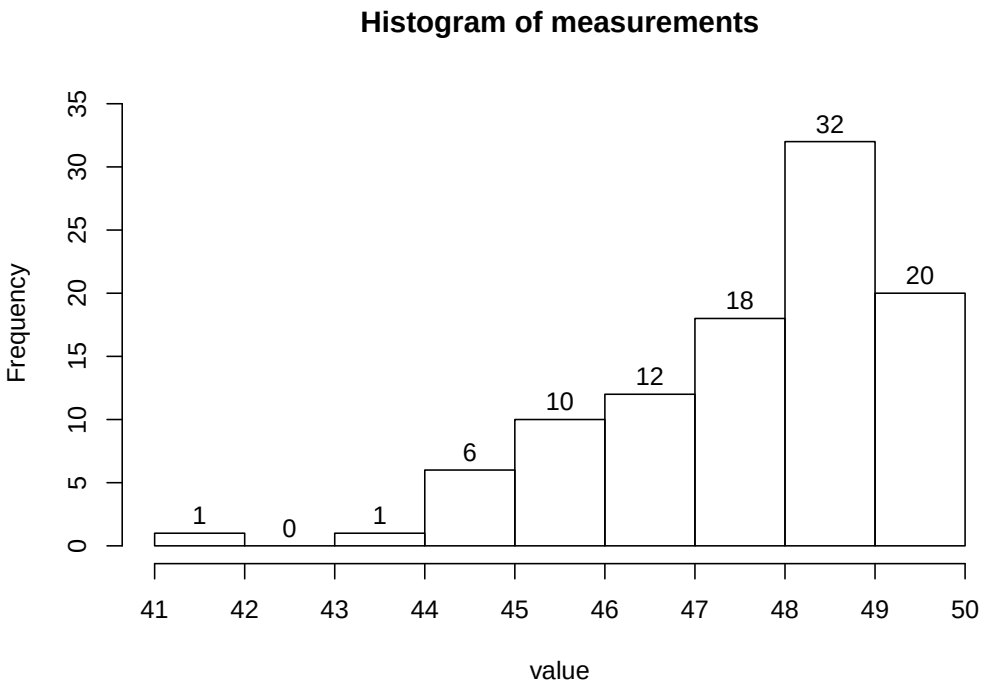


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 120?
   (d) What percent of the measurements are greater than 60?
   (e) Of the measurements less than 120, what percent are greater than 60?
   (f) Estimate the value of the 32th percentile.

Solution

   (a) uniform
   (b) 100
   (c) 68%
   (d) 92%
   (e) 88.24%
   (f) 80

2. **Problem**
A continuous random variable was measured 100 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 46?

(d) What percent of the measurements are less than 45?

(e) Of the measurements less than 46, what percent are less than 45?

(f) Estimate the value of the 1th percentile.

Solution

(a) skew left

(b) 9

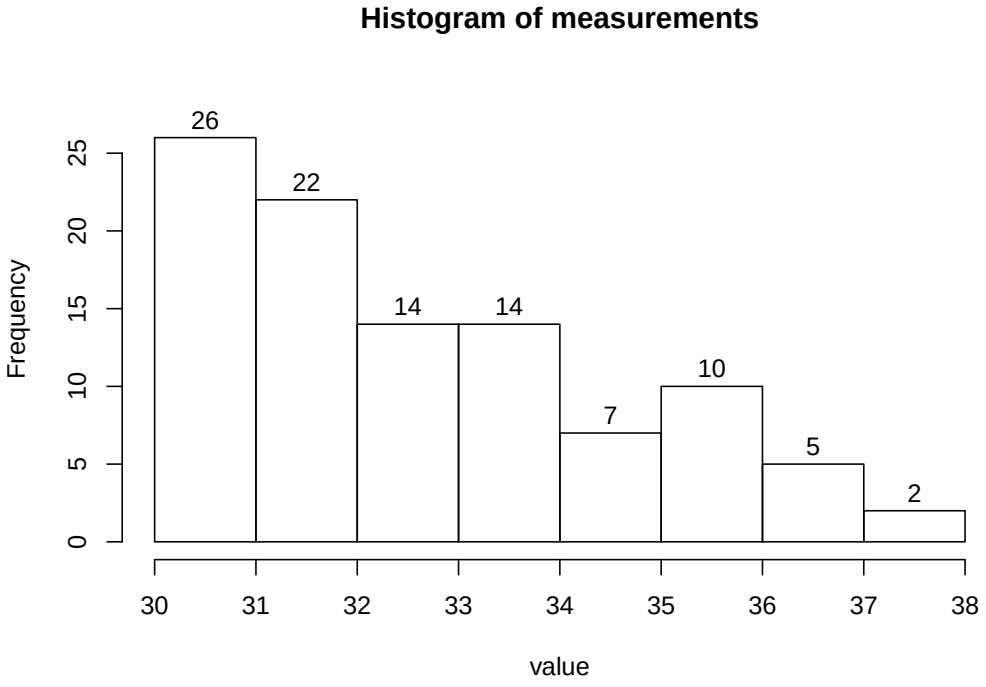
(c) 18%

(d) 8%

(e) 44.44%

(f) 43

1. **Problem**
   A continuous random variable was measured 100 times. The histogram is shown below.

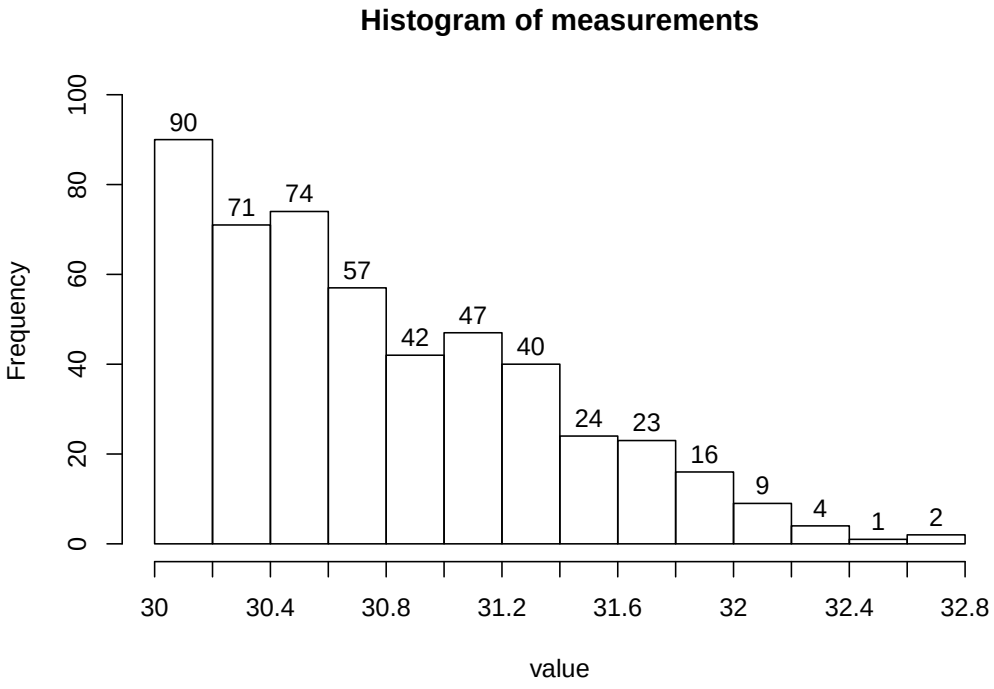


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 35?
   (d) What percent of the measurements are greater than 37?
   (e) Of the measurements greater than 35, what percent are greater than 37?
   (f) Estimate the value of the 48th percentile.

Solution

   (a) skew right
   (b) 8
   (c) 17%
   (d) 2%
   (e) 11.76%
   (f) 32

2. **Problem**
A continuous random variable was measured 500 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 31.4?

(d) What percent of the measurements are greater than 32.2?

(e) Of the measurements greater than 31.4, what percent are greater than 32.2?

(f) Estimate the value of the 99.4th percentile.

Solution

(a) skew right

(b) 2.8

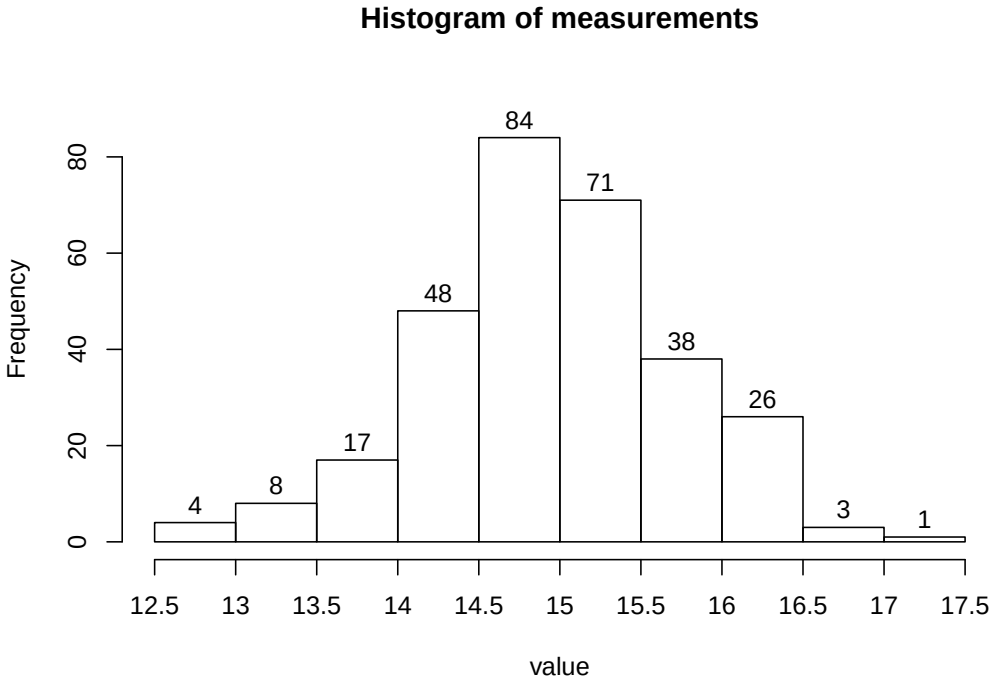
(c) 15.8%

(d) 1.4%

(e) 8.861%

(f) 32.4

1. **Problem**
   A continuous random variable was measured 300 times. The histogram is shown below.

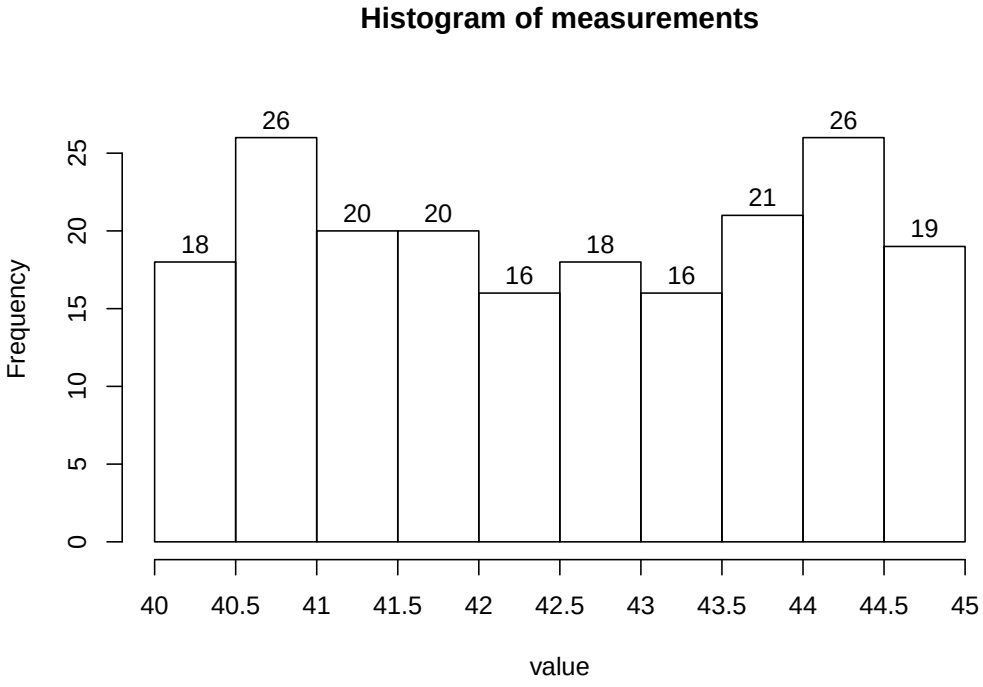


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 13.5?
   (d) What percent of the measurements are less than 12.5?
   (e) Of the measurements less than 13.5, what percent are less than 12.5?
   (f) Estimate the value of the 53.67th percentile.

Solution

   (a) symmetric mound
   (b) 5
   (c) 4%
   (d) 1.333%
   (e) 33.33%
   (f) 15

2. **Problem**
A continuous random variable was measured 200 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 43.5?

(d) What percent of the measurements are less than 41?

(e) Of the measurements less than 43.5, what percent are less than 41?

(f) Estimate the value of the 59th percentile.

Solution

(a) uniform

(b) 5

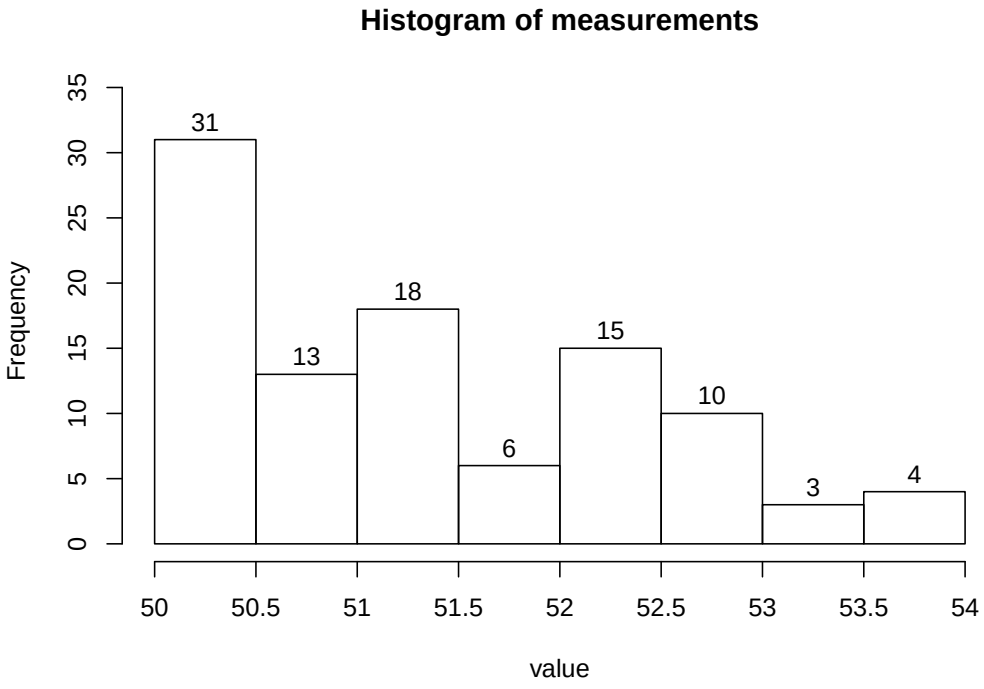
(c) 67%

(d) 22%

(e) 32.84%

(f) 43

1. **Problem**
   A continuous random variable was measured 100 times. The histogram is shown below.

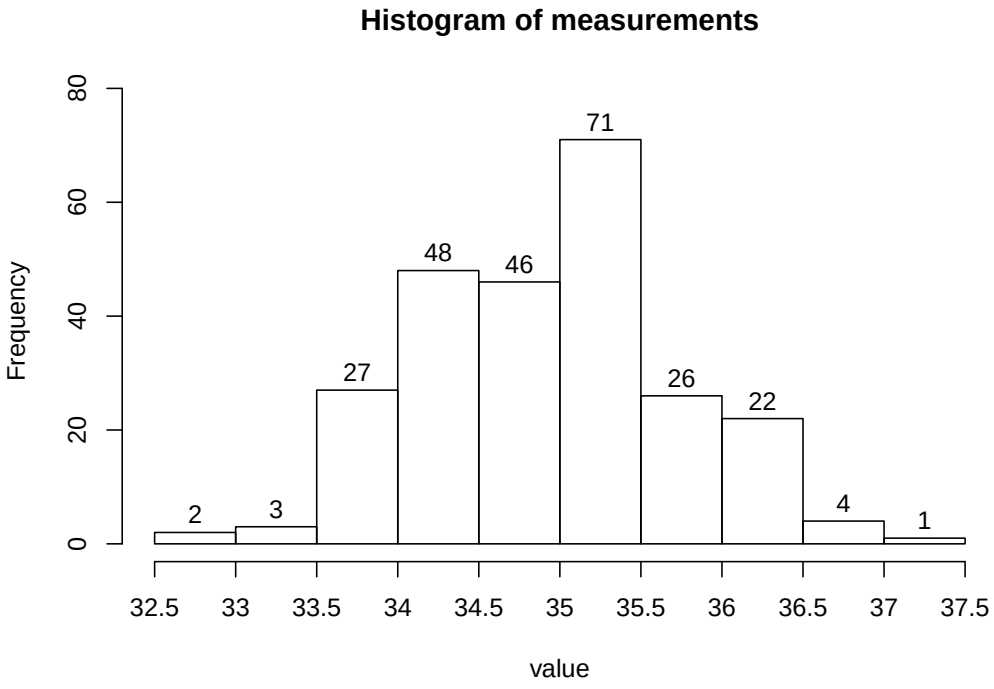


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 52.5?
   (d) What percent of the measurements are less than 53.5?
   (e) Of the measurements greater than 52.5, what percent are less than 53.5?
   (f) Estimate the value of the 62th percentile.

Solution

   (a) skew right
   (b) 4
   (c) 17%
   (d) 96%
   (e) 76.47%
   (f) 51.5

2. **Problem**
A continuous random variable was measured 250 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 34.5?

(d) What percent of the measurements are less than 33?

(e) Of the measurements less than 34.5, what percent are less than 33?

(f) Estimate the value of the 98th percentile.

Solution

(a) symmetric mound

(b) 5

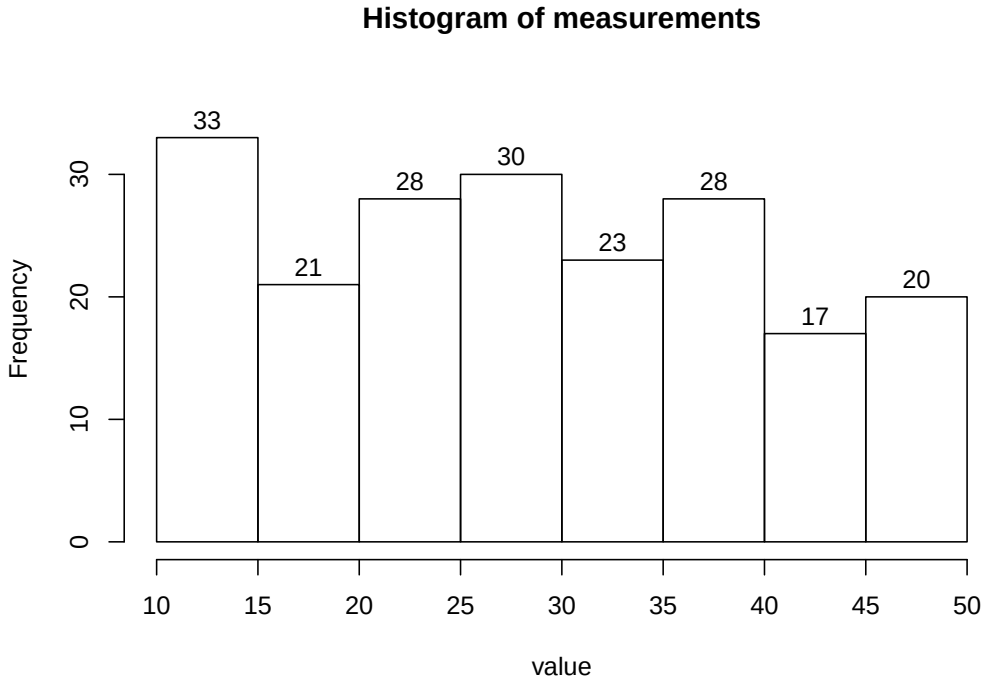
(c) 32%

(d) 0.8%

(e) 2.5%

(f) 36.5

1. **Problem**
   A continuous random variable was measured 200 times. The histogram is shown below.

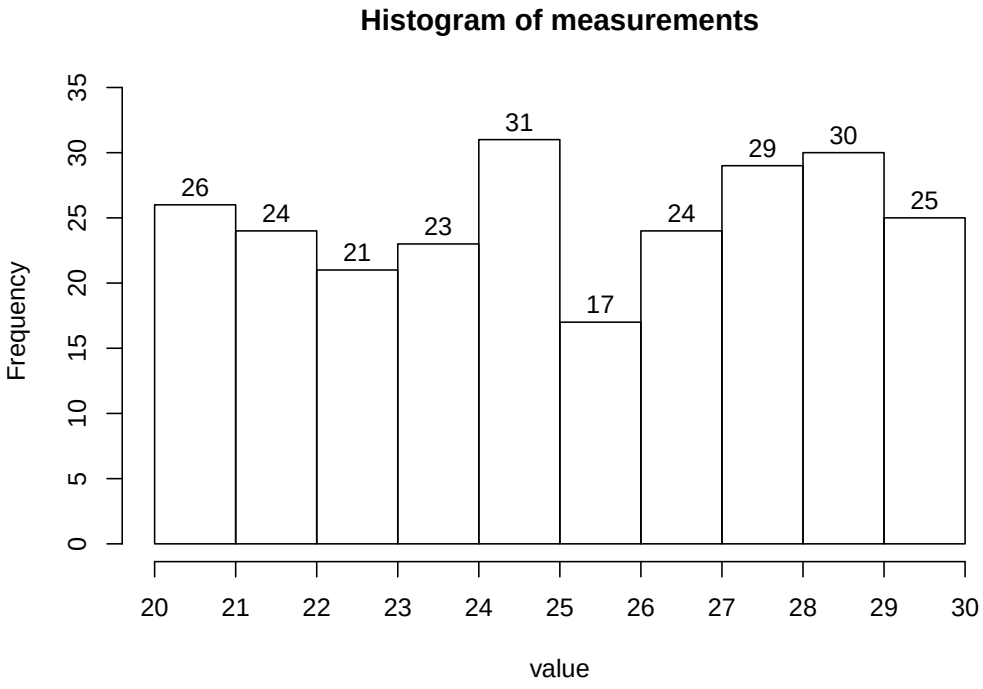


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 30?
   (d) What percent of the measurements are greater than 15?
   (e) Of the measurements less than 30, what percent are greater than 15?
   (f) Estimate the value of the 81.5th percentile.

Solution

   (a) uniform
   (b) 40
   (c) 56%
   (d) 83.5%
   (e) 70.54%
   (f) 40

2. **Problem**
A continuous random variable was measured 250 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 27?

(d) What percent of the measurements are greater than 29?

(e) Of the measurements greater than 27, what percent are greater than 29?

(f) Estimate the value of the 37.6th percentile.

Solution

(a) uniform

(b) 10

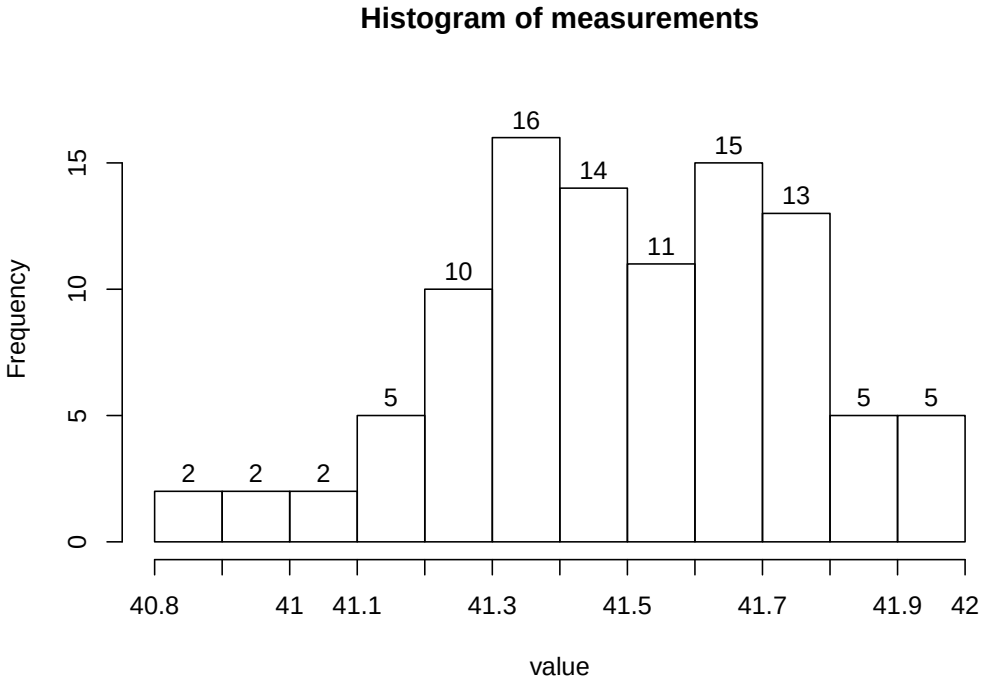
(c) 33.6%

(d) 10%

(e) 29.76%

(f) 24

1. **Problem**
   A continuous random variable was measured 100 times. The histogram is shown below.

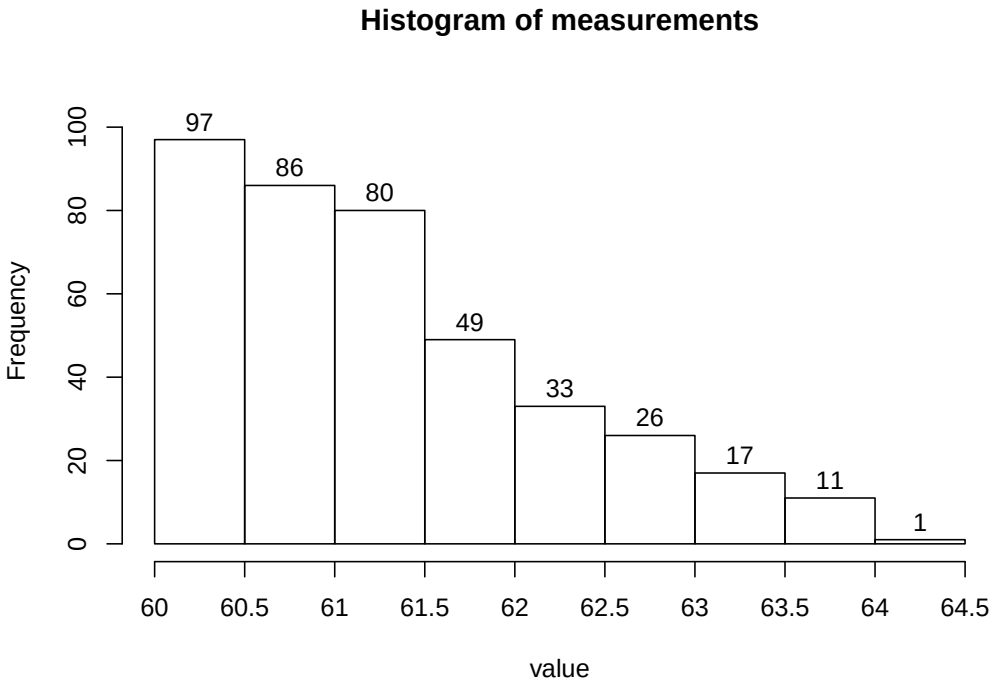


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 41.1?
   (d) What percent of the measurements are less than 40.9?
   (e) Of the measurements less than 41.1, what percent are less than 40.9?
   (f) Estimate the value of the 11th percentile.

Solution

   (a) symmetric mound
   (b) 1.2
   (c) 6%
   (d) 2%
   (e) 33.33%
   (f) 41.2

2. **Problem**
A continuous random variable was measured 400 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 62.5?

(d) What percent of the measurements are greater than 64?

(e) Of the measurements greater than 62.5, what percent are greater than 64?

(f) Estimate the value of the 97th percentile.

Solution

(a) skew right

(b) 4.5

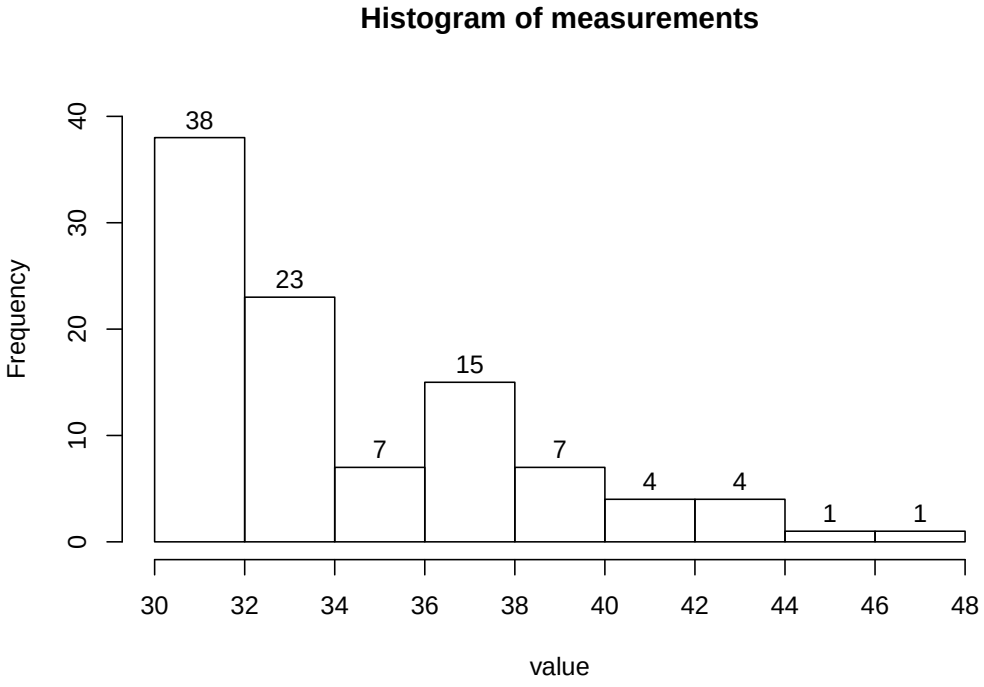
(c) 13.75%

(d) 0.25%

(e) 1.818%

(f) 63.5

1. **Problem**
   A continuous random variable was measured 100 times. The histogram is shown below.

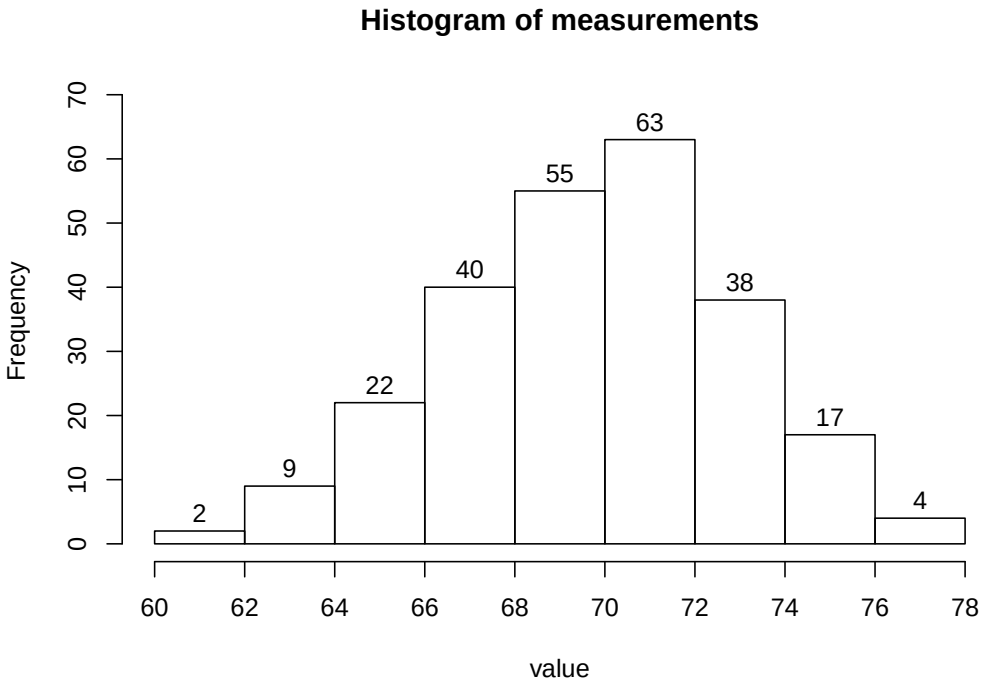


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 34?
   (d) What percent of the measurements are greater than 32?
   (e) Of the measurements less than 34, what percent are greater than 32?
   (f) Estimate the value of the 90th percentile.

Solution

   (a) skew right
   (b) 18
   (c) 61%
   (d) 62%
   (e) 37.7%
   (f) 40

2. **Problem**
A continuous random variable was measured 250 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 68?

(d) What percent of the measurements are less than 70?

(e) Of the measurements greater than 68, what percent are less than 70?

(f) Estimate the value of the 0.8th percentile.

Solution

(a) symmetric mound

(b) 18

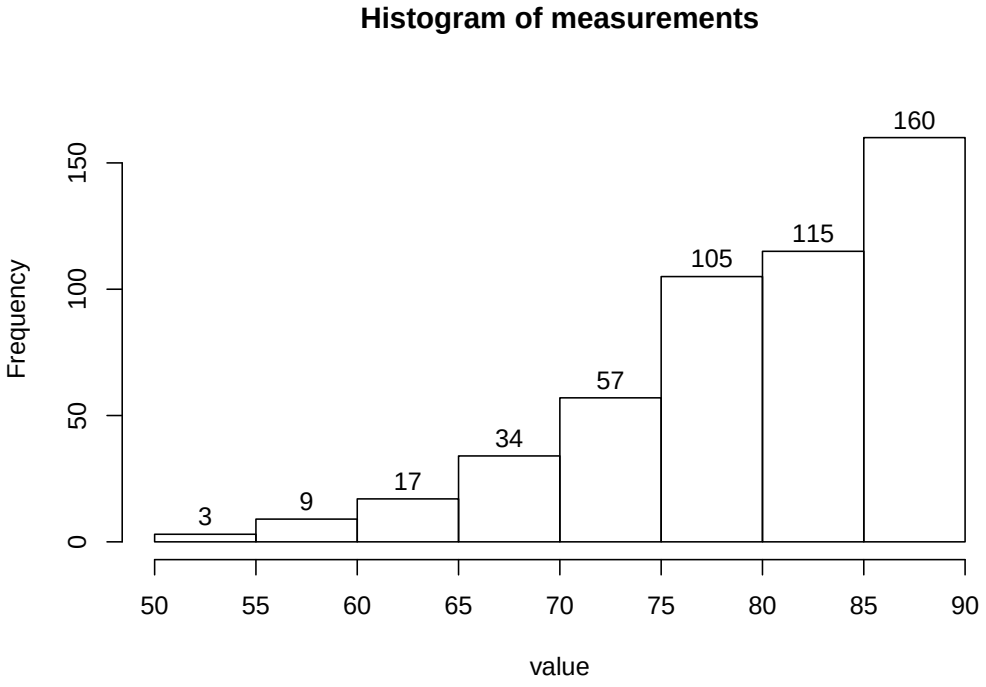
(c) 70.8%

(d) 51.2%

(e) 31.07%

(f) 62

1. **Problem**
   A continuous random variable was measured 500 times. The histogram is shown below.

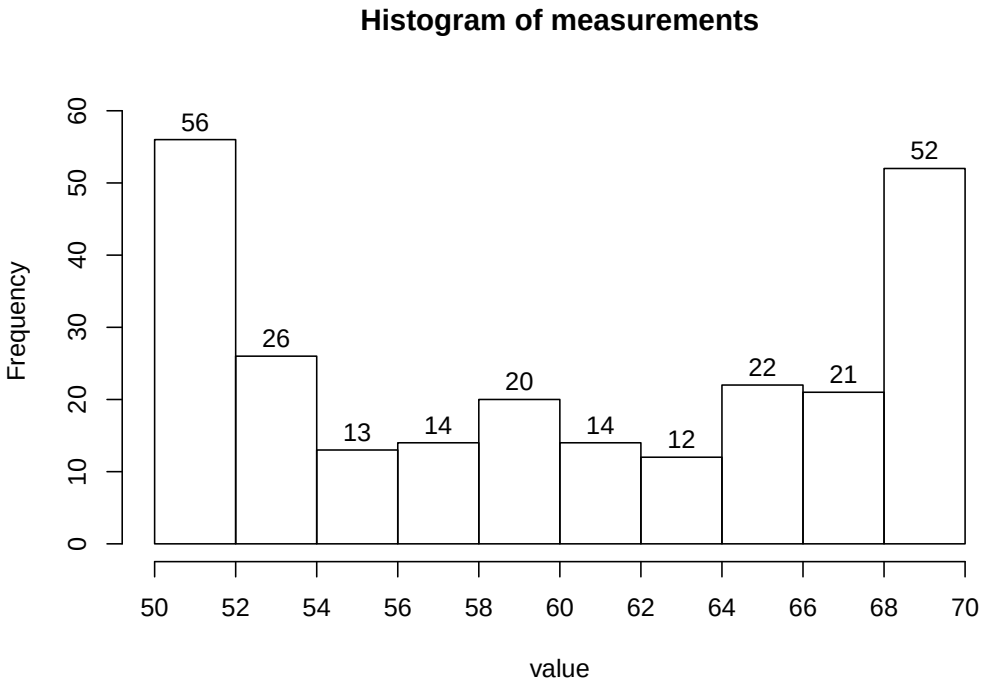


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 60?
   (d) What percent of the measurements are less than 50?
   (e) Of the measurements less than 60, what percent are less than 50?
   (f) Estimate the value of the 45th percentile.

Solution

   (a) skew left
   (b) 40
   (c) 2.4%
   (d) 0.6%
   (e) 25%
   (f) 80

2. **Problem**
A continuous random variable was measured 250 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 62?

(d) What percent of the measurements are less than 68?

(e) Of the measurements greater than 62, what percent are less than 68?

(f) Estimate the value of the 38th percentile.

Solution

(a) bimodal

(b) 20

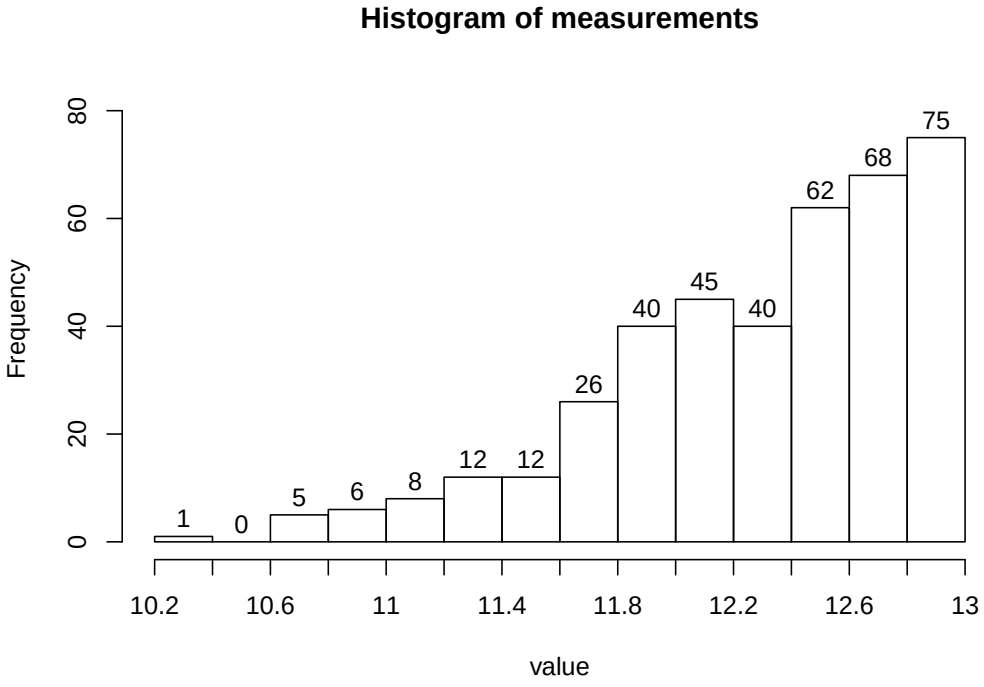
(c) 42.8%

(d) 79.2%

(e) 51.4%

(f) 56

1. **Problem**
   A continuous random variable was measured 400 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 10.8?

(d) What percent of the measurements are less than 10.6?

(e) Of the measurements less than 10.8, what percent are less than 10.6?

(f) Estimate the value of the 17.5th percentile.

Solution

(a) skew left

(b) 2.8

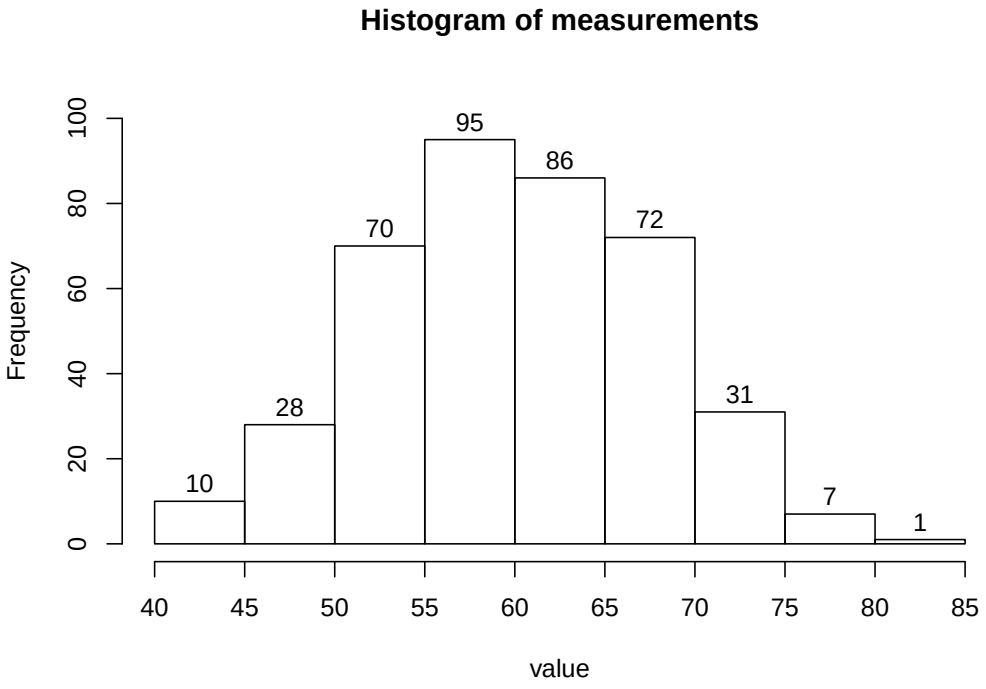
(c) 1.5%

(d) 0.25%

(e) 16.67%

(f) 11.8

2. **Problem**
A continuous random variable was measured 400 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 50?

(d) What percent of the measurements are greater than 40?

(e) Of the measurements less than 50, what percent are greater than 40?

(f) Estimate the value of the 98th percentile.

Solution

(a) symmetric mound

(b) 45

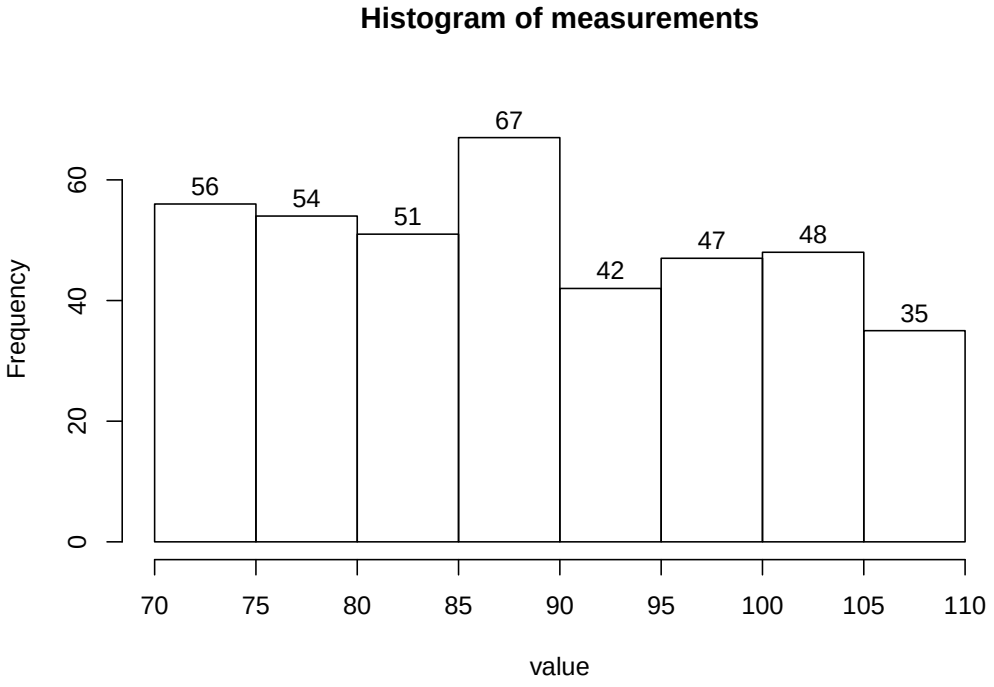
(c) 9.5%

(d) 100%

(e) 100%

(f) 75

1. **Problem**
   A continuous random variable was measured 400 times. The histogram is shown below.

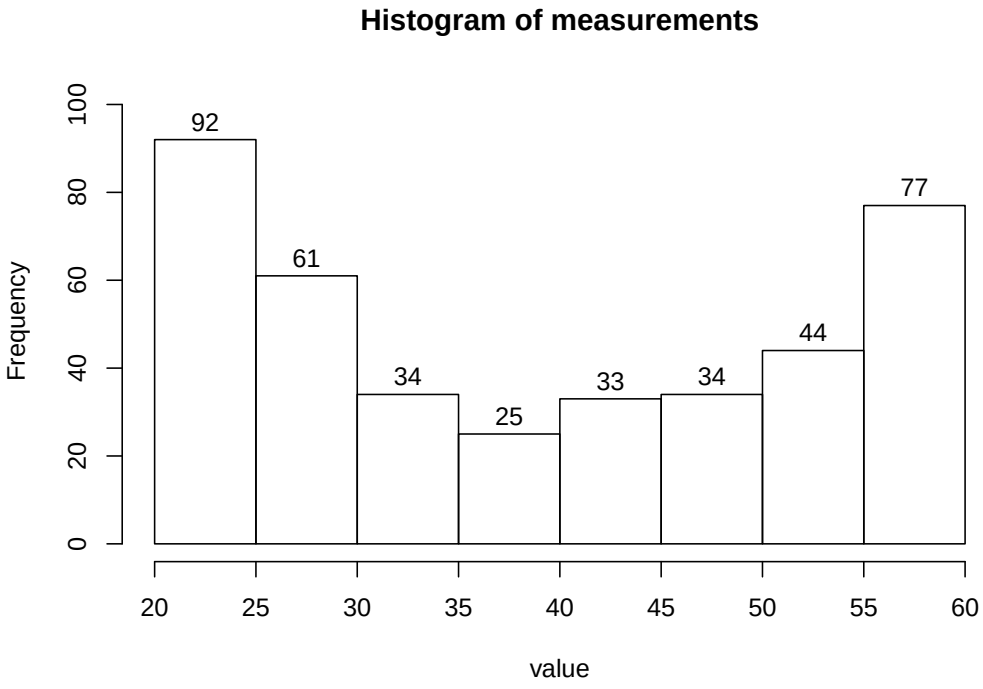


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 90?
   (d) What percent of the measurements are less than 85?
   (e) Of the measurements less than 90, what percent are less than 85?
   (f) Estimate the value of the 67.5th percentile.

Solution

   (a) uniform
   (b) 40
   (c) 57%
   (d) 40.25%
   (e) 70.61%
   (f) 95

2. **Problem**
A continuous random variable was measured 400 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 35?

(d) What percent of the measurements are greater than 25?

(e) Of the measurements less than 35, what percent are greater than 25?

(f) Estimate the value of the 38.25th percentile.

Solution

(a) bimodal

(b) 40

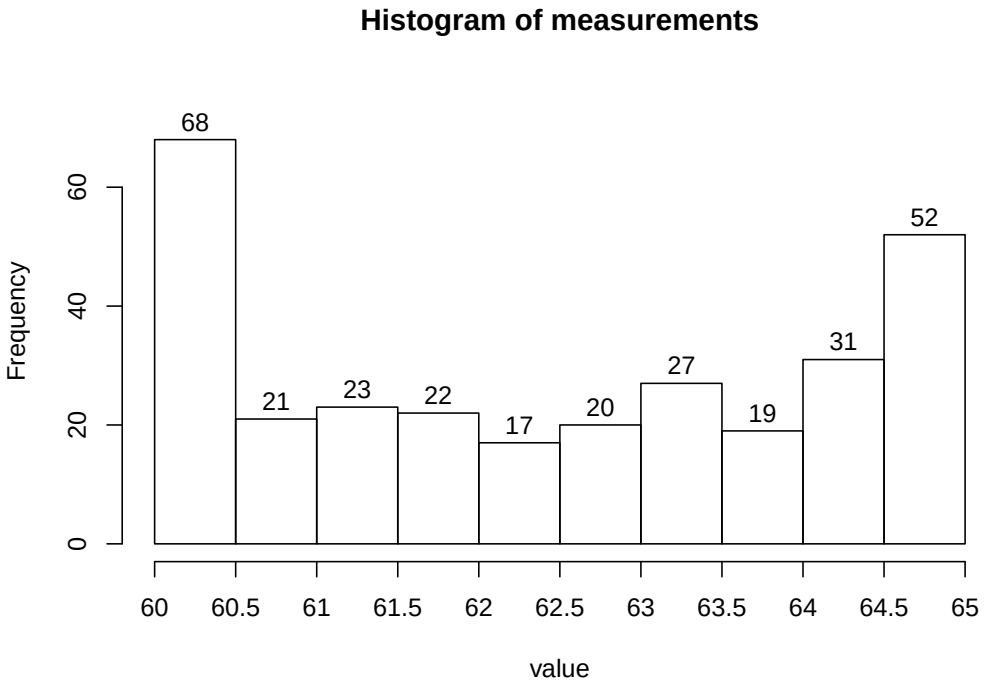
(c) 46.75%

(d) 77%

(e) 50.8%

(f) 30

1. **Problem**
   A continuous random variable was measured 300 times. The histogram is shown below.

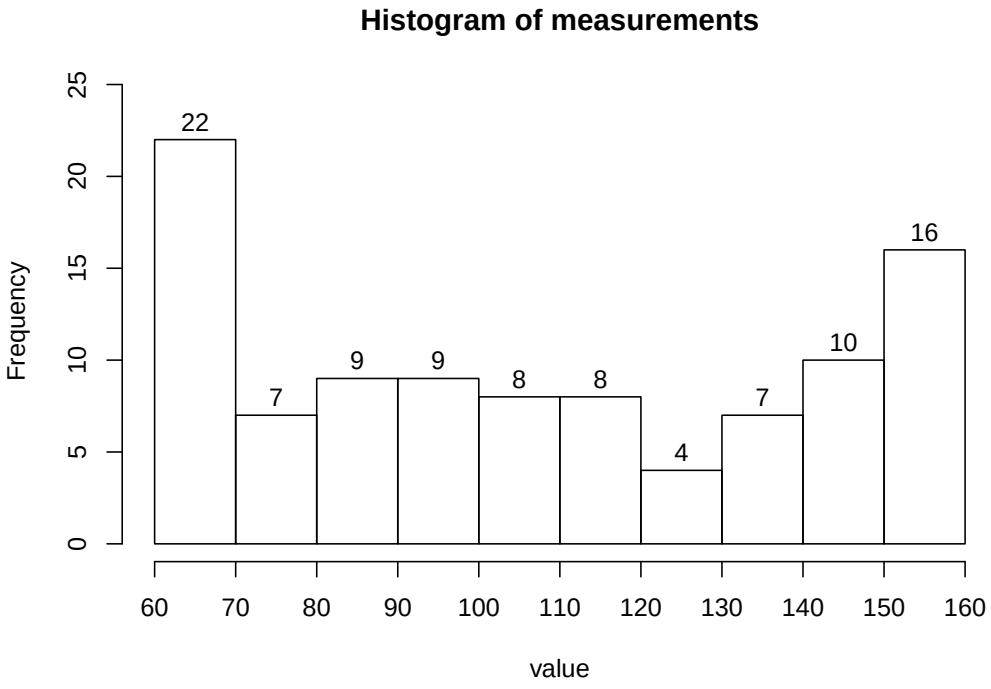


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are less than 62?
   (d) What percent of the measurements are less than 61.5?
   (e) Of the measurements less than 62, what percent are less than 61.5?
   (f) Estimate the value of the 22.67th percentile.

Solution

   (a) bimodal
   (b) 5
   (c) 44.67%
   (d) 37.33%
   (e) 83.58%
   (f) 60.5

2. **Problem**
A continuous random variable was measured 100 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are greater than 130?

(d) What percent of the measurements are less than 150?

(e) Of the measurements greater than 130, what percent are less than 150?

(f) Estimate the value of the 74th percentile.

Solution

(a) bimodal

(b) 100

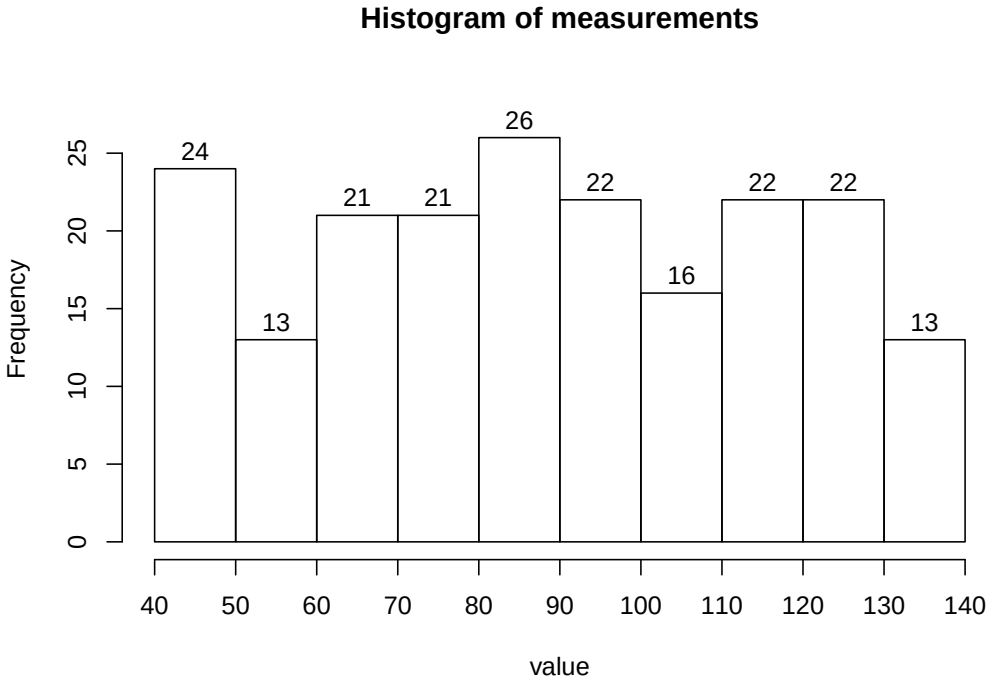
(c) 33%

(d) 84%

(e) 51.52%

(f) 140

1. **Problem**
   A continuous random variable was measured 200 times. The histogram is shown below.

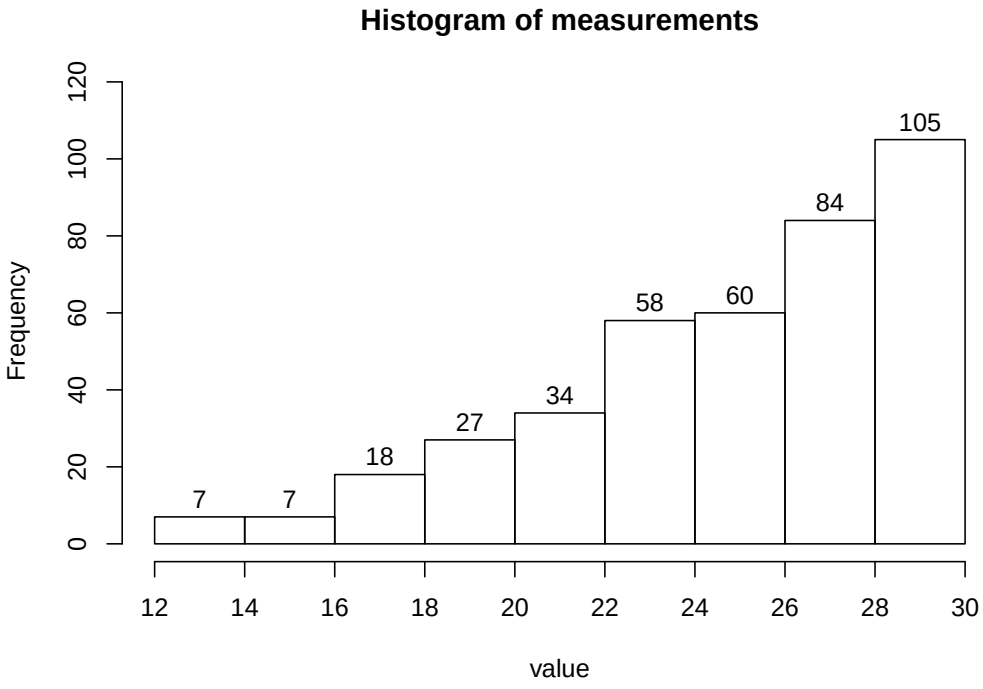


   (a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)
   (b) Estimate the range of the distribution (range = max-min).
   (c) What percent of the measurements are greater than 110?
   (d) What percent of the measurements are greater than 130?
   (e) Of the measurements greater than 110, what percent are greater than 130?
   (f) Estimate the value of the 39.5th percentile.

Solution

   (a) uniform
   (b) 100
   (c) 28.5%
   (d) 6.5%
   (e) 22.81%
   (f) 80

2. **Problem**
A continuous random variable was measured 400 times. The histogram is shown below.



(a) Describe the overall shape of the distribution. (symmetric mound, skew left, skew right, uniform, or bimodal)

(b) Estimate the range of the distribution (range = max-min).

(c) What percent of the measurements are less than 22?

(d) What percent of the measurements are less than 16?

(e) Of the measurements less than 22, what percent are less than 16?

(f) Estimate the value of the 8th percentile.

Solution

(a) skew left

(b) 18

(c) 23.25%

(d) 3.5%

(e) 15.05%

(f) 18