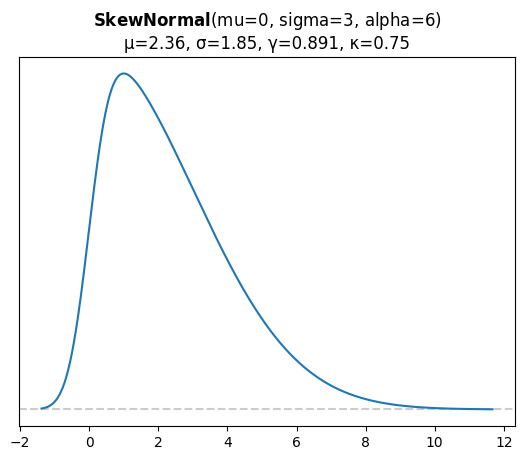
**Homework 1 Solutions**

Question 1:

1. d

Sample size 10: mean = 1.91, sigma = 1.64

Sample size 100: mean = 2.58, sigma = 1.79

Sample size 1000: mean = 2.44, sigma = 1.97

As the sample size increases, the values of the parameters are generally closer to the correct values.

1. Similar and answers are in the notebook.

Question 2:

Coin 1 – fair

Coin 2 – loaded

**Probabilities of choosing each coin:**

**Probabilities of flips within each coin:**

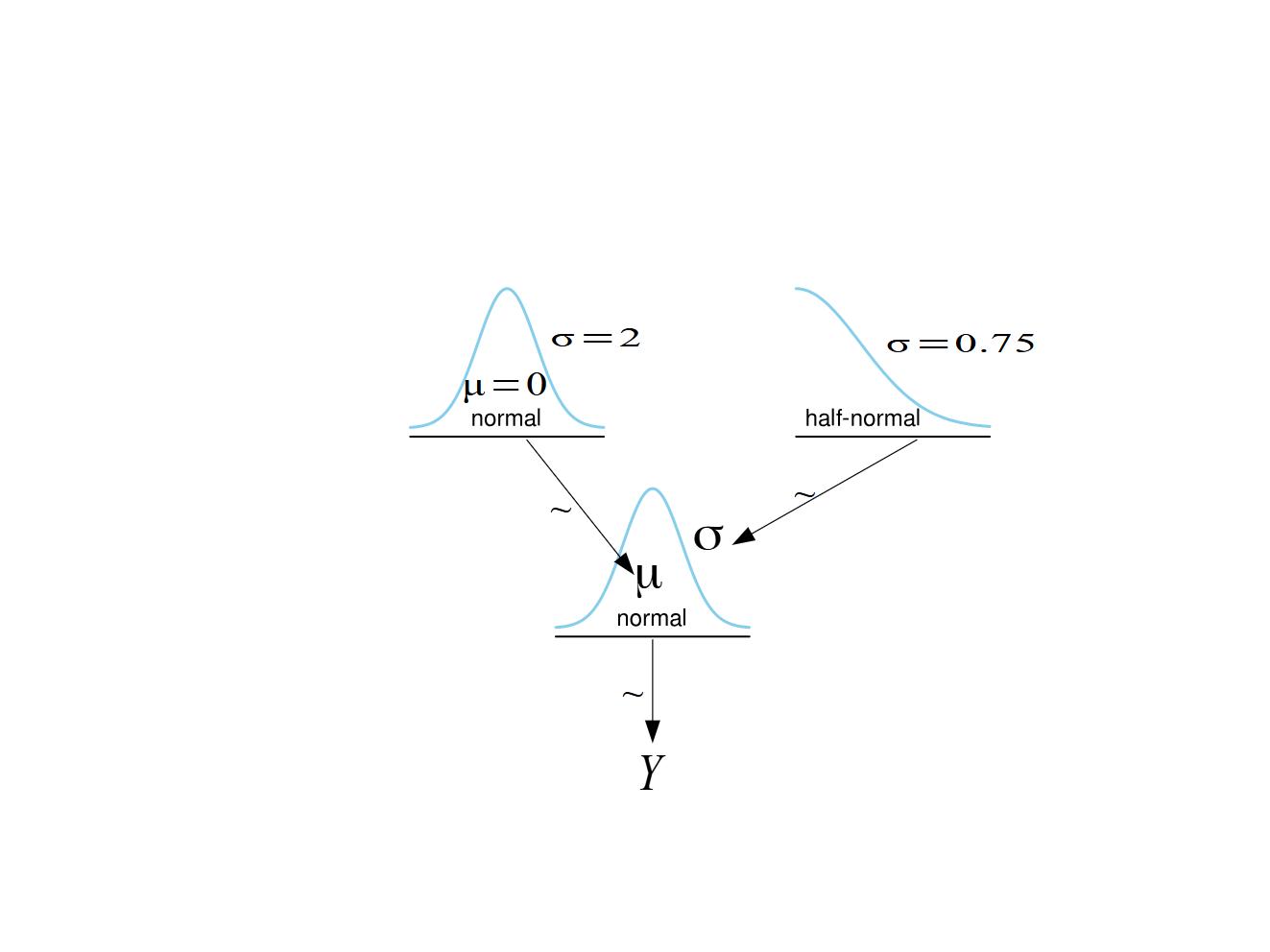
**Bayes:**

Question 3:

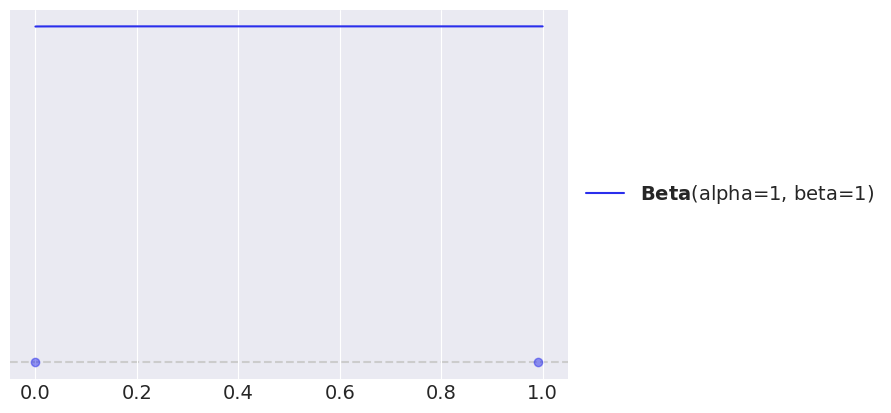
1. The likelihood is the normal distribution with parameters .

has a normal prior with (N(0,2)) and has a half normal prior.

1. The posterior will have two parameters – one for each and

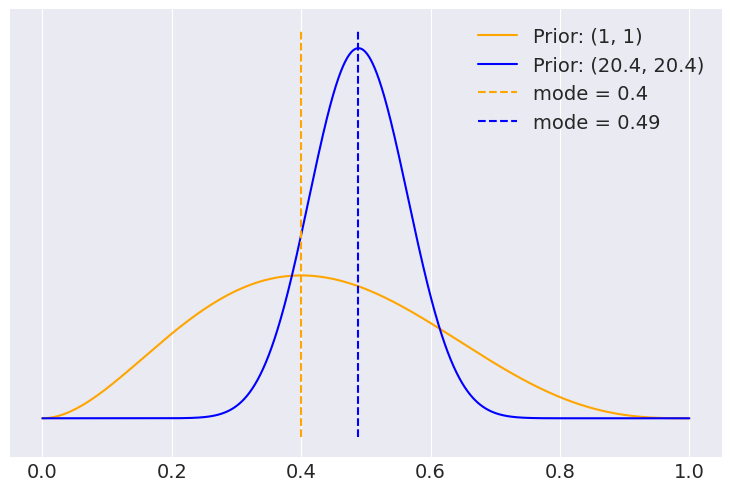


Question 4:

1. 

A graph with a blue line

AI-generated content may be incorrect.

2. 
3. 