

## ✔ Congratulations! You passed!

Grade received 80%

Latest Submission Grade 80%

To pass 80% or higher

**Go to next item**

1. In a Gibbs Sampler, the proposals are always accepted

**1 / 1 point**

☒ True

☐ False

✔ **Correct**

2. A Gibbs Sampler is a specific case of a Metropolis-Hastings algorithm

**0 / 1 point**

☐ True

☒ False

✘ **Incorrect**

It is a specific case of the Metropolis-Hastings algorithm where the proposal distribution is the conditional posterior distribution.

3. Gibbs sampler samples from one parameter at a time, cycling through one parameter at a time.

**0 / 1 point**

☐ True

☒ False

✘ **Incorrect**

4. In Gibbs sampling, the proposal distribution is

1 / 1 point

- ☐ A Normal distribution
- ☒ The posterior conditional distribution

☒ Correct

5. We visually inspect the trace to

1 / 1 point

- ☒ Check for convergence
- ☐ Determine the largest sampled value

☒ Correct

6. We can use a histogram to look at the distribution of the posterior from Metropolis, Metropolis-Hastings or Gibbs sampling

1 / 1 point

- ☒ True
- ☐ False

☒ Correct

7. HMC is based on the motion of a particle in space

1 / 1 point

- ☒ True
- ☐ False

☒ Correct

8. In HMC, a numerical integration step is performed at each step to march forward and obtain the solution

1 / 1 point

☒ True

☐ False

☒ Correct

9. The reason for a Metropolis-Hastings step when performing HMC is to

1 / 1 point

☐ Make HMC run faster

☒ Correct the errors from the numerical integration scheme

☒ Correct

10. When using NUTS in PyMC3, the number of steps 'L' is automatically tuned

1 / 1 point

☒ True

☐ False

☒ Correct