

## Solutions

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**2.1** 5% means  $5/100=0.05$ .

**2.2** The correct tail probability 0.03 is below 0.05, so reject  $H_0$ . This is evidence, not proof.

**2.3** Sum the binomial probabilities for  $k=3$  through 10; equivalently use  $1-P(X \leq 2)=0.0701908264$ .

**2.4** False. Failing to reject  $H_0$  is not proof that  $H_0$  is true. Choose the tail from  $H_1$ , not from whichever tail gives a small result. Statistical significance does not measure the practical size of an effect.

**2.5 A** The chosen probability threshold for rejecting a null hypothesis.

**3.1** Reject at 5%, do not reject at 1%.  $p$  is a tail probability under  $H_0$  and the model, not a posterior probability. Do not change the chosen threshold after seeing the data.