Exercise 22C: Solutions

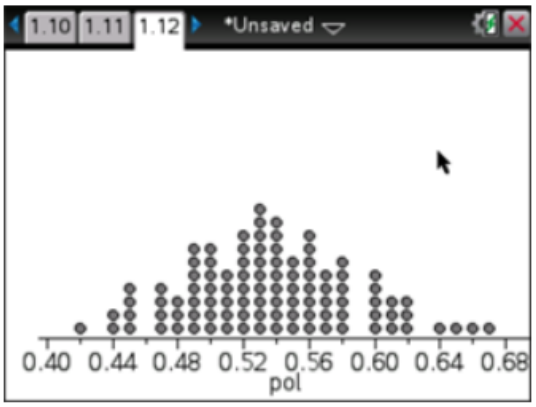
1 a There are eight dots which represent sample proportions of 0.8 or more from the 100 samples simulated. Thus we can estimate $\Pr(\hat{P} \geq 0.8) = 0.08$.

b There is one dot which represent a sample proportions of 0.5 or less from the 100 samples simulated. Thus we can estimate $\Pr(\hat{P} \leq 0.5) = 0.01$.

2 a There is one dot which represents a sample proportion of 0.7 or more from the 100 samples simulated. Thus we can estimate $\Pr(\hat{P} \geq 0.7) = 0.01$.

b There are seven dots which represent a sample proportion of 0.25 or less from the 100 samples simulated. Thus we can estimate $\Pr(\hat{P} \leq 0.25) = 0.07$.

3 a

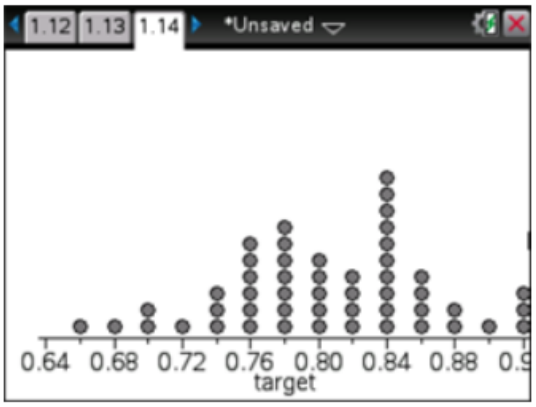


b see **a**

c i $\Pr(\hat{P} \geq 0.64) \approx 0.04$. (Answers will differ)

ii $\Pr(\hat{P} \leq 0.44) \approx 0.03$. (Answers will differ)

4 a

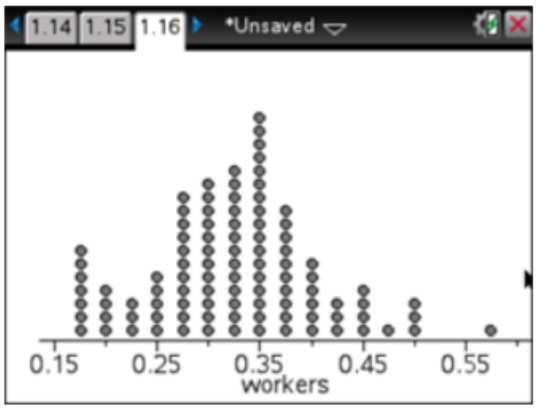


b see **a**

c i $\Pr(\hat{P} \geq 0.9) \approx 0.06$.(Answers will differ)

ii $\Pr(\hat{P} \leq 0.7) \approx 0.08$. (Answers will differ)

5 a

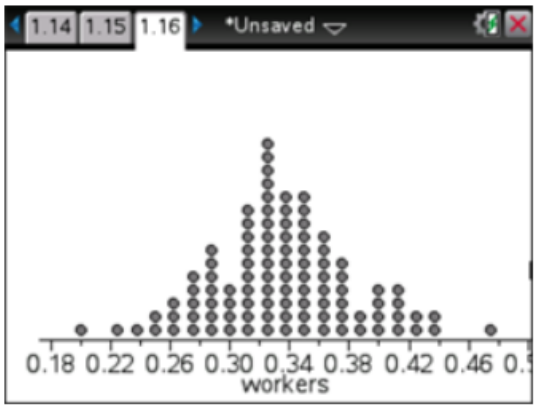


b see **a**

i $\Pr(\hat{P} \geq 0.45) \approx 0.18$.(Answers will differ)

ii $\Pr(\hat{P} \leq 0.25) \approx 0.38$.(Answers will differ)

6 a



b see **a**

c **i** $\Pr(\hat{P} \geq 0.45) \approx 0.01$. (Answers will differ)

ii $\Pr(\hat{P} \leq 0.25) \approx 0.06$. (Answers will differ)