

## Feedback — Quiz 2

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Thank you. Your submission for this quiz was received.

You submitted this quiz on **Sat 13 Jun 2015 4:15 PM SGT**. You got a score of **8.00** out of **8.00**.

### Question 1

What is the variance of the distribution of the average an IID draw of  $n$  observations from a population with mean  $\mu$  and variance  $\sigma^2$ .

Your Answer	Score	Explanation
<input type="radio"/> $\sigma/n$		
<input type="radio"/> $2\sigma/\sqrt{n}$		
<input type="radio"/> $\sigma^2$		
<input checked="" type="radio"/> $\frac{\sigma^2}{n}$	✓ 1.00	
Total	1.00 / 1.00	

### Question 2

Suppose that diastolic blood pressures (DBPs) for men aged 35-44 are normally distributed with a mean of 80 (mm Hg) and a standard deviation of 10. About what is the probability that a random 35-44 year old has a DBP less than 70?

Your Answer	Score	Explanation
<input checked="" type="radio"/> 16%	✓ 1.00	
<input type="radio"/> 8%		
<input type="radio"/> 22%		
<input type="radio"/> 32%		

Total

1.00 / 1.00

### Question 3

Brain volume for adult women is normally distributed with a mean of about 1,100 cc for women with a standard deviation of 75 cc. What brain volume represents the 95th percentile?

Your Answer	Score	Explanation
<input type="radio"/> approximately 1247		
<input type="radio"/> approximately 977		
<input type="radio"/> approximately 1175		
<input checked="" type="radio"/> approximately 1223	✓ 1.00	
Total	1.00 / 1.00	

### Question 4

Refer to the previous question. Brain volume for adult women is about 1,100 cc for women with a standard deviation of 75 cc. Consider the sample mean of 100 random adult women from this population. What is the 95th percentile of the distribution of that sample mean?

Your Answer	Score	Explanation
<input checked="" type="radio"/> approximately 1112 cc	✓ 1.00	
<input type="radio"/> approximately 1115 cc		
<input type="radio"/> approximately 1088 cc		
<input type="radio"/> approximately 1110 cc		
Total	1.00 / 1.00	

### Question 5

You flip a fair coin 5 times, about what's the probability of getting 4 or 5 heads?

Your Answer	Score	Explanation
<input type="radio"/> 12%		
<input type="radio"/> 3%		
<input type="radio"/> 6%		
<input checked="" type="radio"/> 19%	✓ 1.00	
Total	1.00 / 1.00	

## Question 6

The respiratory disturbance index (RDI), a measure of sleep disturbance, for a specific population has a mean of 15 (sleep events per hour) and a standard deviation of 10. They are not normally distributed. Give your best estimate of the probability that a sample mean RDI of 100 people is between 14 and 16 events per hour?

Your Answer	Score	Explanation
<input type="radio"/> 34%		
<input type="radio"/> 95%		
<input checked="" type="radio"/> 68%	✓ 1.00	
<input type="radio"/> 47.5%		
Total	1.00 / 1.00	

## Question 7

Consider a standard uniform density. The mean for this density is .5 and the variance is  $1/12$ . You sample 1,000 observations from this distribution and take the sample mean, what value would you expect it to be near?

Your Answer	Score	Explanation
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- |                                      |   |      |
|--------------------------------------|---|------|
| <input type="radio"/> 0.75           |   |      |
| <input type="radio"/> 0.10           |   |      |
| <input checked="" type="radio"/> 0.5 | ✓ | 1.00 |
| <input type="radio"/> 0.25           |   |      |

Total	1.00 / 1.00
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## Question 8

The number of people showing up at a bus stop is assumed to be Poisson with a mean of 5 people per hour. You watch the bus stop for 3 hours. About what's the probability of viewing 10 or fewer people?

- | Your Answer                           | Score | Explanation |
|---------------------------------------|-------|-------------|
| <input checked="" type="radio"/> 0.12 | ✓     | 1.00        |
| <input type="radio"/> 0.06            |       |             |
| <input type="radio"/> 0.08            |       |             |
| <input type="radio"/> 0.03            |       |             |

Total	1.00 / 1.00
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