## Question 1

1 / 1 pts

The bus you take every morning always arrives anywhere from 2 minutes early to 15 minutes late and it is equally likely that it arrives during any of those minutes. Suppose that you arrive at the bus stop five minutes early. What is the probability that the bus is more than five minutes late?

- 10%
- 10/18
- 10/15
- 10/17

Draw a graph from 2 minutes early to 15 minutes late. Divide it in to minutes. Shade in the appropriate region. How many minutes are in the graph? How many minutes did you shade?

Incorrect

## Question 2

0 / 1 pts

The bus you take every morning always arrives anywhere from 2 minutes early to 15 minutes late and it is equally likely that it arrives during any of those minutes. Suppose that you arrive at the bus stop five minutes early. What is the probability that the bus is more than 15 minutes late?

- 85%
- 0
- 15/17

Look at your range. Can you wait more than 15 minutes for the bus?

- 15%

Draw a graph from 2 minutes early to 15 minutes late. Divide it in to minutes. Shade in the appropriate region. How many minutes are in the graph? How many minutes did you shade?

## Question 3

1 / 1 pts

A teacher is monitoring how often students visit the website of the course during the day. She finds the following probability distribution. Find the expected number of visits to the course website.

| visits(x) | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| probability | 0.45 | 0.35 | 0.15 | 0.05 |

- 0.75
- 0.80
- 0.25
- 0.85

This is a discrete random variable, so the expected value=mean=Sum {x*P(X)} for all x's.

## Question 4

1 / 1 pts

Suppose that X is the number of wolves that are seen in Banff, Canada by tourists. The table below is the probability distribution for X. What is the expected value of X, that is, what is the mean of its distribution?

| X | 0 | 1 | 2 | 3 |
|---|---|---|---|---|

| Probability | 0.6 | 0.2 | 0.1 | 0.1 |
|---|---|---|---|---|

- 0.5
- 0.7
- 1.00
- 1.7

This is a discrete random variable, so the expected value==mean=Sum {x*P(X)} for all x's.

## Question 5

1 / 1 pts

Scores on an exam follow an approximately Normal distribution with a mean of 76.4 and a standard deviation of 6.1 points. What is the minimum score you would need to be in the top 7%?

- 85.4
- 81.4
- 0.93
- 1.48

To find a value of X given an area or proportion, work backwards. Remember that the table has cumulative area. SO, you want to look up 1-0.07=0.93 in the table. First find the z-score that corresponds to that area, and then use the equation for the z-score to solve for X. ( x = mu + z*sigma )

## Question 6

1 / 1 pts

Scores on an exam follow an approximately Normal distribution with a mean of 76.4 and a standard deviation of 6.1 points. What is the minimum score you would need to be in the top 2%?

- 86.93
- 0.99
- 91.93
- 99.99
- (selected) 88.93

First draw the picture and find the cumulative probability (1-0.02) = 0.98. Look up 0.98 in the middle of the table to get the z-score. Now, use the equation x = z*sigma +mu .

## Question 7

1 / 1 pts

Scores on an exam follow an approximately Normal distribution with a mean of 76.4 and a standard deviation of 6.1 points. What percent of students scored below 80 points?

- -.59
- 59%
- 27.76%
- (selected) 72.24%

To find areas to the left of an observation, first find the z-score, and then look up the area in the middle of the Z table.

## Question 8

1 / 1 pts

Scores on an exam follow an approximately Normal distribution with a mean of 74.3 and a standard deviation of 7.4 points. What percent of students scored below 85 points?

- 1.45
- 0.9394
- 0.0606
- 0.0735
- 0.9265

To find areas to the left of an observation, first find the z-score, and then look up the area in the middle of the Z table.

## Question 9

1 / 1 pts

X~N(2.9, 0.78).

Find the z-score corresponding to an observation of 1.5.

- -1.79
- -2.22
- 1.79
- 2.22

If X~N(mu, sigma) then z= (x-mu)/sigma.brnbsp;brRemember to do the subtraction before dividing by sigma.

## Question 10

1 / 1 pts

Scores on an exam follow an approximately Normal distribution with a mean of 76.4 and a standard deviation of 6.1 points. What percent of students scored above 75 points?

- (●) 59%
- ( ) 23%
- ( ) 77%
- ( ) 41%

To find areas to the right of an observation, first find the z-score, then look up the area to the left of that observation in the middle of the Z table, and finally subtract the area from 1 (the total area) to get the area to the right.