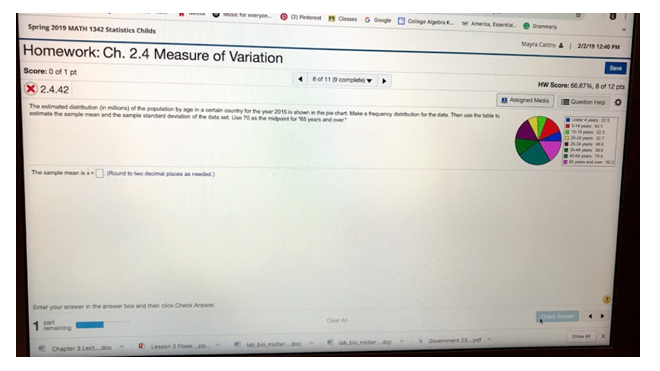
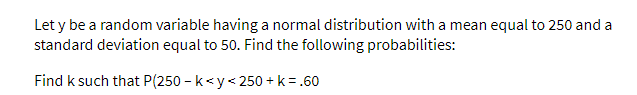
Question 1:



This question will be skipped. because, it is a graded question.

Question 2:



**Solution:**

**Step 1:**

Here we have given that,

Let Y be the normally distributed random variable with mean is 250 and a standard deviation is equal to 50 . i.e. mean, **µ** =250 and standard deviation , **σ** =50

Here we have to find the value of k such that

P(250-k<y<250+k)=0.60

**Step 2:**

We know that , if random variable Y follows N(**µ,σ**) then

Z=(Y- **µ)**/ **σ** follows normal distribution with mean 0 and variance 1

i.e. z ~ N(0,1)

Now consider,

P(250-k<y<250+k)=0.60

= P(250-k- **µ/ σ** < Y- **µ**/ **σ** <250+k-**µ/ σ**)=0.60

=P(-k/50 < Z <+k/50)=0.60 (since, Z=(Y- **µ)**/ **σ )**

From statistical Z table ,

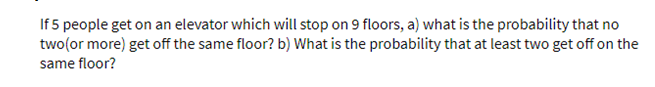
Implies that k/50=0.842

K =0.842x50

K=42.1

**Step 3**: **Answer: K = 42.1**

Question 3:



**Solution:**

**Step 1:**

Here we have given that 5 people get on a elevator which will stop on 9 floors.

The total number of people, who can get down in floor 1 is 9, total number of people, who can get down in floor 2 is 9 and so on.

Also here we see that floors are chosen independently. So we say the total number of 95=59049 different ways people can get down elevator.

Therefore total no of possible events are 59049.

**Step 2 :**

1. Here we have to find the probability that no two (or more) get off the same floor.

Therefore,

Required probability = favourable events/ total events

= (C(9,5) \*5!)/95

=

= 0.25606.

1. Here, we have to find probability that at least two get off on the same floor.

Therefore,

Required probability = 1 – probability that no two or more get off the same floor.

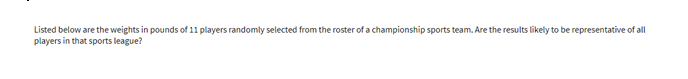
= 1- 0.25606

= 0.74394

**Step 3:**

1. **Answer: probability = 0.25606**
2. **Answer: probability = 0.74394.**

Question 4:



This question is skipped. Because, there is a incomplete information.