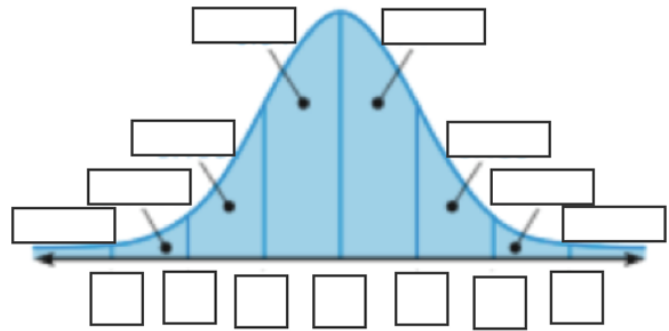


11.1 Using Normal Distributions ws

Name _____ Period _____

1) The scores for a state officer's test have a normal distribution with a mean of 55 and a standard deviation of 12. The test scores range from 0 – 100.

a) Fill in all values needed for the normal curve.

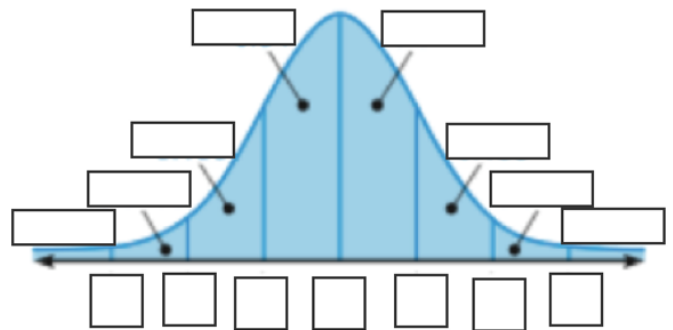


b) What percent of people taking the test have scores between 43 and 67?

c) The agency will only hire applicants with scores of 67 or greater. What percent are eligible for hiring?

2) The average (mean) time that someone shops is 45 minutes. The standard deviation is 12 minutes.

a) Fill in all values needed for the normal curve.

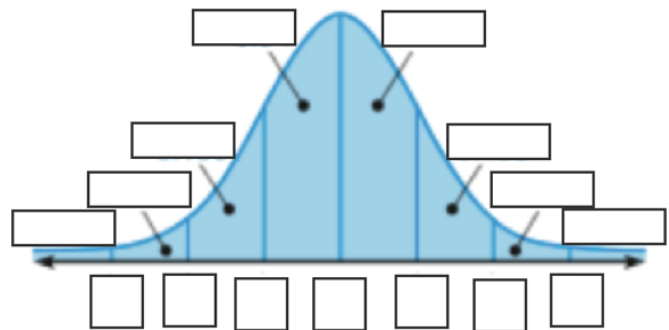


b) What percent spend 33 – 57 minutes shopping?

c) What is the probability that a random shopper spent 45 – 69 minutes shopping?

3) The price of sandals has a mean price of \$36 and a standard deviation of \$9.

a) Fill in all values needed for the normal curve.

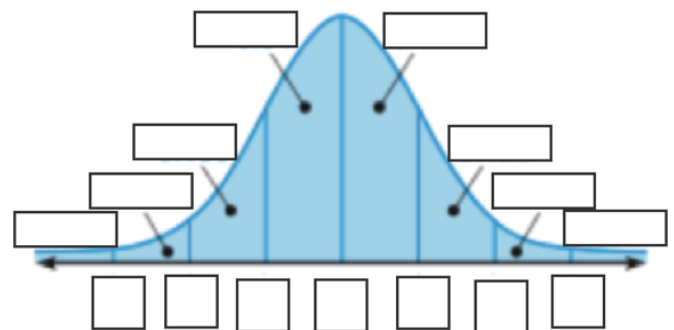


b) What percent cost \$18 – 63?

c) P(random pair is between \$9-18)?

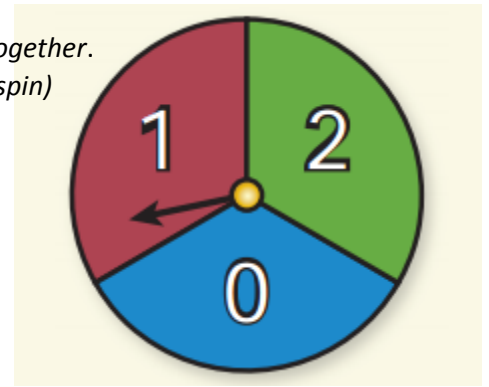
4) The weight of a package of strawberries has $\mu = 16.18$ ounces and a $\sigma = 0.34$ ounces.

a) Fill in all values needed for the normal curve.



b) P(randomly choose 2 packs and they both weigh < 15.5 oz)

5) Using the spinner a) create a probability distribution for two spins being added together.
 Hint: total outcomes is 9 (3 options for first spin, multiplied by 3 options for second spin)

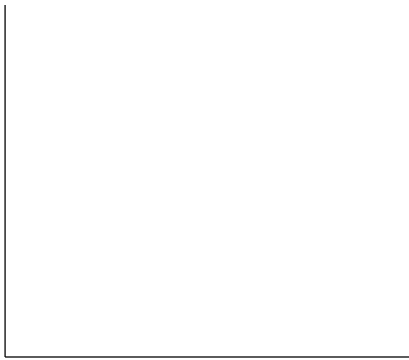


x (sum)	0	1	2	3	4
outcomes					
# of outcomes					
P(x)					

b) Which sum is most likely?

c) Create a histogram of your results.

d) Is it more likely to get a sum < 2, sum = 2, or a sum > 2?



6) You roll a dice 4 times. Create a binomial distribution for the likelihood of getting sixes.

a) What is the theoretical of a six on one dice? $p =$

b) $P(0 \text{ sixes}) = {}_4C_0(p)^0(1-p)^{4-0}$ fill in p and solve

$P(1 \text{ six}) =$ fill in formula and solve

$P(2 \text{ sixes}) =$

$P(3 \text{ sixes}) =$

$P(4 \text{ sixes}) =$

Note: total values should equal 1

c) Create a histogram of your distribution

d) What is the most likely scenario?

e) How likely is it to get more than 2 sixes?

f) Is it more likely to get less than 2 sixes or more than 3 sixes?

