

Name _____

Date _____

Analyzing Probabilities and Decisions - Guided Lesson

Complete the following problems:

1) A laptop company finds a major defect in their laptops which results in their software not working properly during operation. The company must make a decision entirely based on the most cost effective method of fixing this problem. The total laptops sold by the company are 35,560. They could:



a) Recall all the laptops and fix the problem. The financials behind this method include:

- The cost to fix the laptops would be \$963 per laptop.
- The cost to contact customers to make the fix would be \$25 per customer.
- A \$240,000 fine by the government for issuing a recall.
- In all recall situations, only an average of 73.2% of customers actual have the laptop serviced for the recall.

b) You could just defend the company against law suits brought on by individuals in a class-action law suits. The financials behind this method include:

- 1) An industry average of 37.6% of customers that are part of the active plaintiffs.
- 2) The legal fees are \$56,000.
- 3) An average award of \$685 per plaintiff.
- 4) An average cost of legal fees of \$78 per plaintiff. This will be required.

Which strategy has the better expected outcome?



Name _____

Date _____

2) A team has choice of hitting a short field goal, running for a touchdown, or passing for a touchdown. 3 points is for the short field goal and for getting a touchdown you receive 6 points. The coach has run the statistics on three strategies from their field position. Three strategies are:

Field goal success (3 point) = 75.6%

Conversion by run (6 points) = 63.4%

Conversion by passing (6 points) = 84%

If the team gets 15 chances to score this season, from that field position, which strategy would result in statistically the most points?

3) A motorcycle company finds a major defect in their bikes. The defect results in the engines of bikes are not working properly during operation. The whole team of the company must make a decision entirely based on the most cost effective method of fixing this problem. The total bikes sold by the company were 458,567. Determine the best course of action. They could:

a) Recall all the bikes and fix the problem. The financials behind this method include:

- The cost to fix the problem would be \$548 per bike.
- The cost to contact customers to make the fix would be \$34 per customer.
- A \$652,000 fine by the government for issuing a recall.
- In all recall situations, only an average of 84.3% of customers actually have their bikes serviced for the recall.

b) You could just defend your company against law suits brought on by individuals in a class-action law suits. The financials behind this method include:

1) An industry average of 45.8% of customers that are part of the active plaintiffs.

2) The legal fees are \$21,050.

3) An average award of \$345 per plaintiff.

4) An average cost of legal fees of \$64 per defendant. This will be required.

