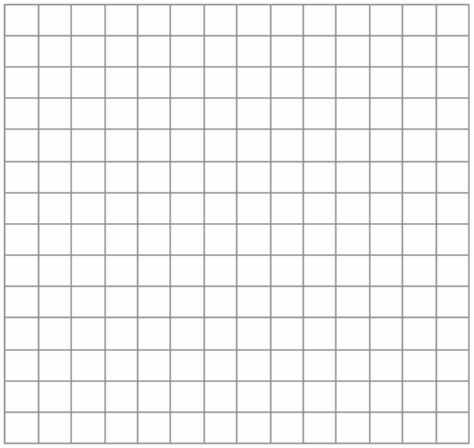
Solutions to these problems can be found on our school's homepage. Click on the left-hand tab labeled "MCA Math Prep Info" and scroll down to find the February 13th information. Click on the link labeled "Probability and Statistics solutions" and a pdf of the solutions will open.

Probability and Statistics
MCA prep Lesson 3

Name _____

1. Make a scatterplot of the following data.

# of Tardies	0	1	2	4	8
Final Grade	100	92	80	82	56



2. Y = -5.1x +97.2 is the equation of the regression line for the data above. What would someone's grade be who was tardy 7 times?

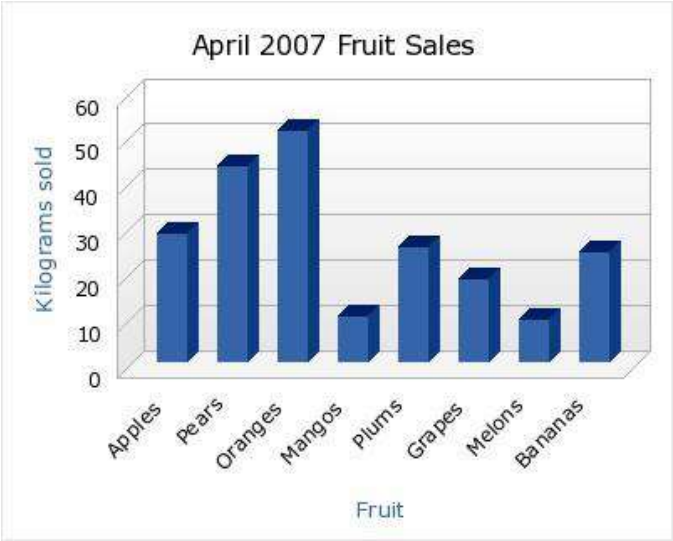
3. The equation of the regression line for son's height in inches *y* versus father's height in inches *x* is $y = 0.5x + 35$. For a 72 inch tall father, what would we predict for the son's height?
   (a) 69 inches (b) 71 inches (c) 72 inches (d) 74 inches (e) None of the above.

4. A study of child development measures the age (in months) at which a child begins to talk and also the child's score on an ability test given several years later. The study asks whether the age at which a child talks helps predict the later test score. The least-squares regression line of test score *y* on age *x* is $y = 110 – 1.3x$. According to this regression line, what happens (on the average) when a child starts talking one month later?
   (a) The test score goes down 110 points.
   (b) The test score goes down 1.3 points.
   (c) The test score goes up 110 points.
   (d) The test score goes up 1.3 points.
   (e) The test score is 108.7.

5. Answer the following questions based on the bar graph to the right on Fruit Sales. (approximate counts to best of your abilities)

a. Estimate the difference in sales between the least popular fruit and the most popular.

b. Find the percent increase between apples and oranges.

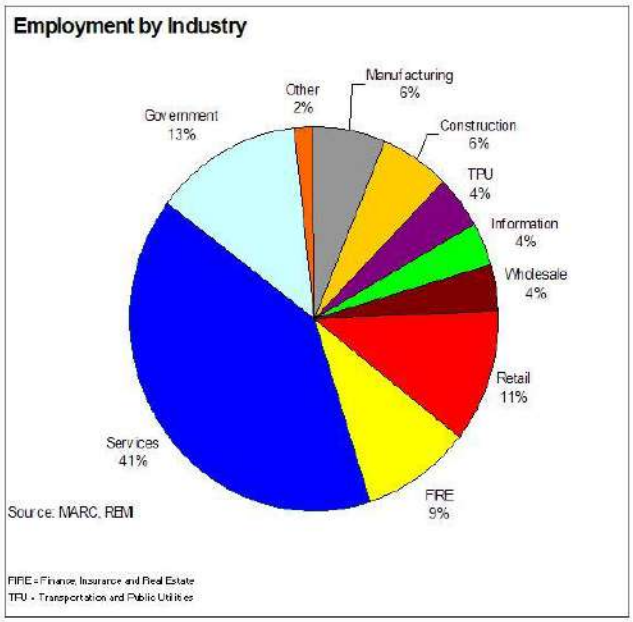


6. Use the circle graph to the right to answer the following questions.

a. What two industries make up 50% of all employment?

b. What are the bottom six industries?

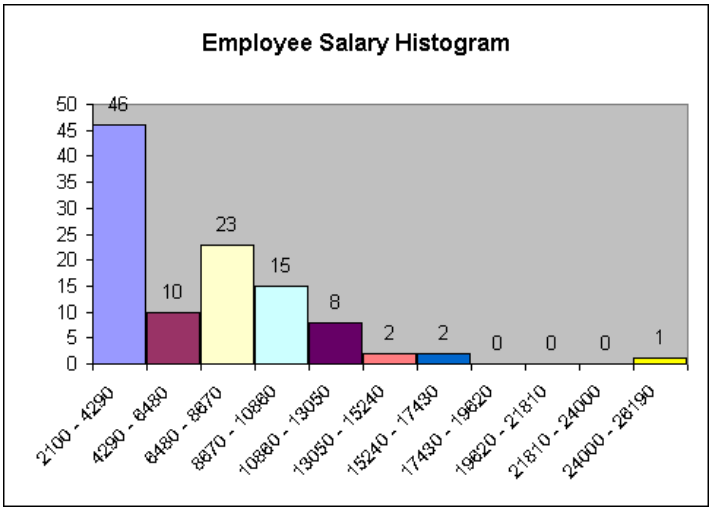
What is the total percent for the bottom six industries?



7. Use the histogram to the right to answer the following questions.

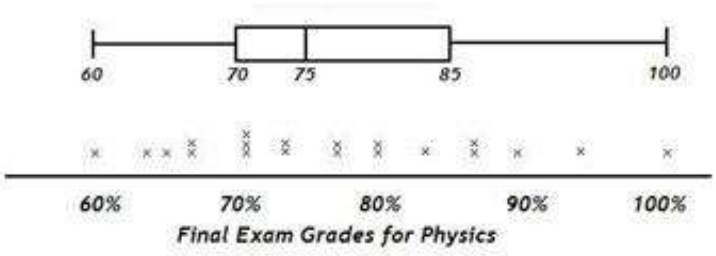
a. How many employees earned between$4,290 and $13,050?

b. In what class does the median most likely fall?



8. Use the box plot to the right to answer the following questions.

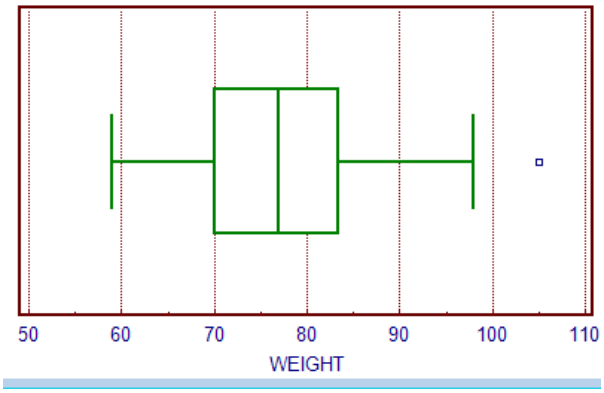
a. What is the median score?



b. Did more students score below a 70 or did more students score above an 85 or the amounts the same?

9. Use the box plot to the right to answer the following questions regarding the weights of 3rd graders at McKinney elementary.

a. Between what two weights do the middle 50% of students fall?



10. The stem-and-leaf plot at the right shows the number of calendars students sold to raise money for the school band. How many students sold more than 14 calendars?

Number of Calendars Sold

0	1 7 8 9
1	5 6 7 8 9
2	3 5

11. Find the **mean, median, mode, maximum, minimum and range** of the following data:

11	7	11	12	10	6	9	11	5	13	2