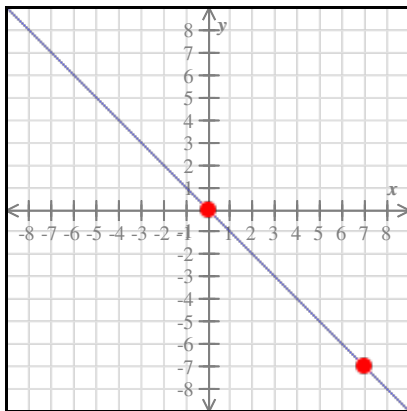


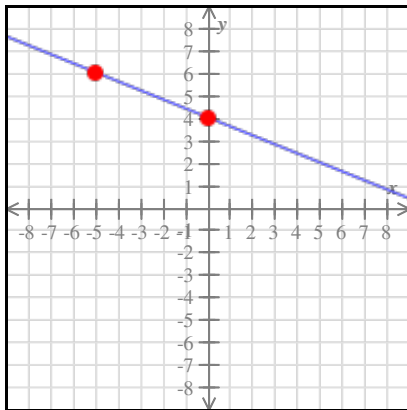
ALEKS® Objective 1 Worksheet B

Introduction to Statistics / Math 117 Statistics (Mr. Banimahd)

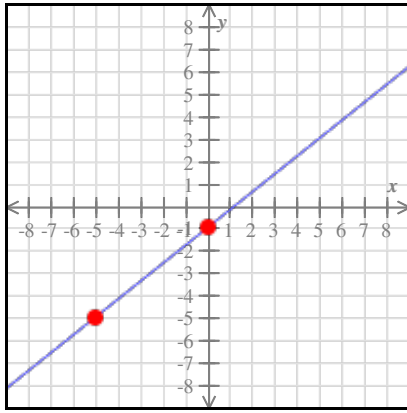
1. Write an equation of the line below.



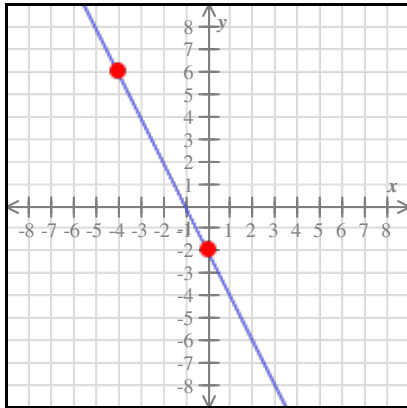
2. Write an equation of the line below.



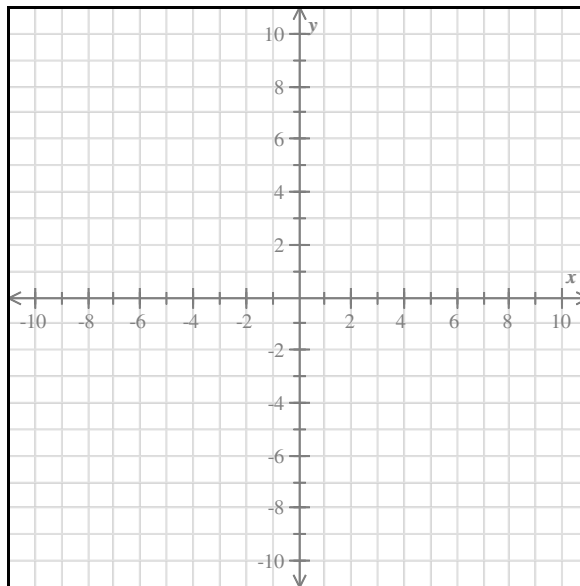
3. Write an equation of the line below.



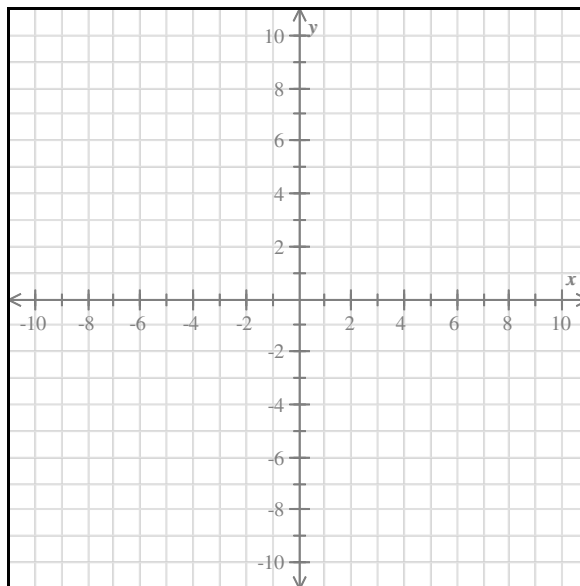
4. Write an equation of the line below.



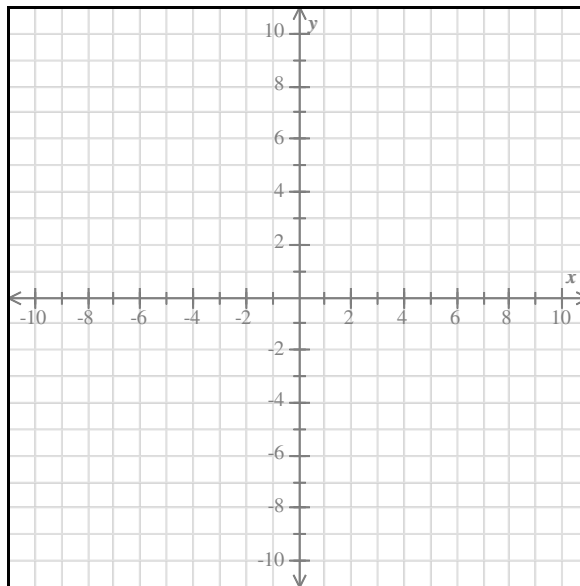
5. Graph the line whose y -intercept is -9 and whose x -intercept is -2 .



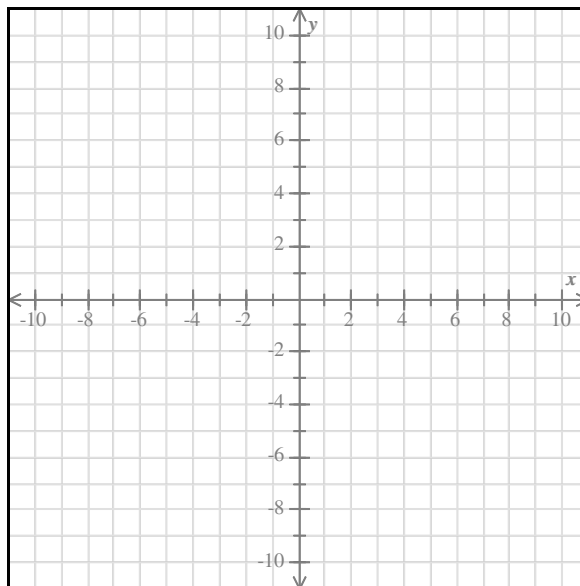
6. Graph the line whose x -intercept is -1 and whose y -intercept is 3 .



7. Graph the line whose x -intercept is 4 and whose y -intercept is -3 .

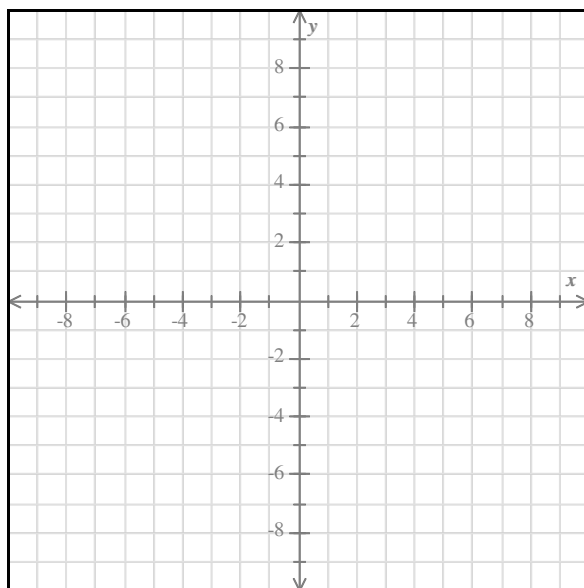


8. Graph the line whose y -intercept is 8 and whose x -intercept is -5 .



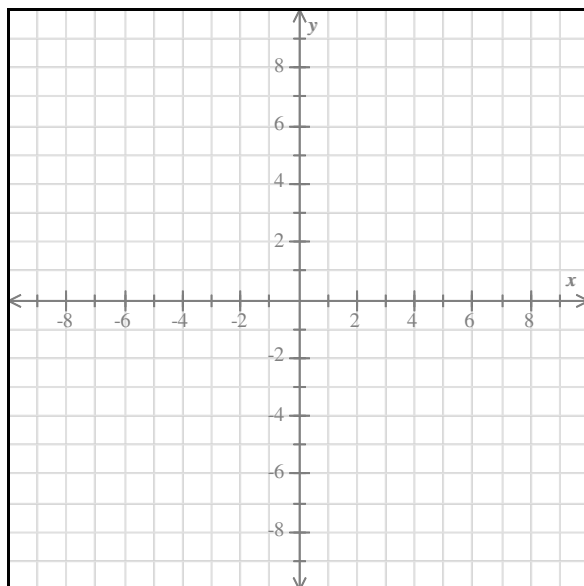
9. Graph the line.

$$y = -3x + 3$$



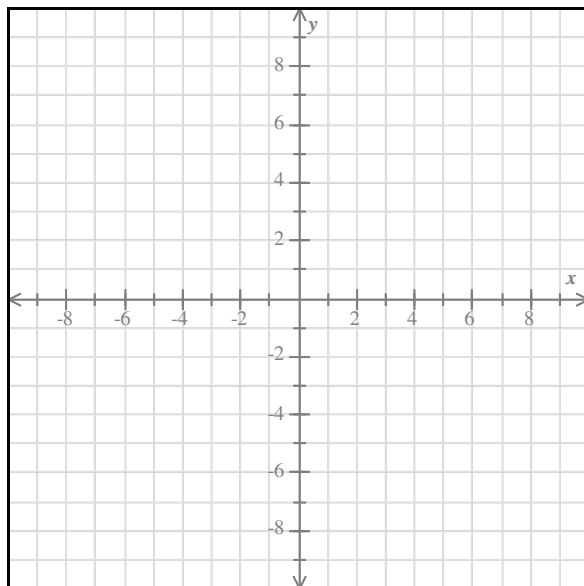
10. Graph the line.

$$y = \frac{3}{4}x + 1$$



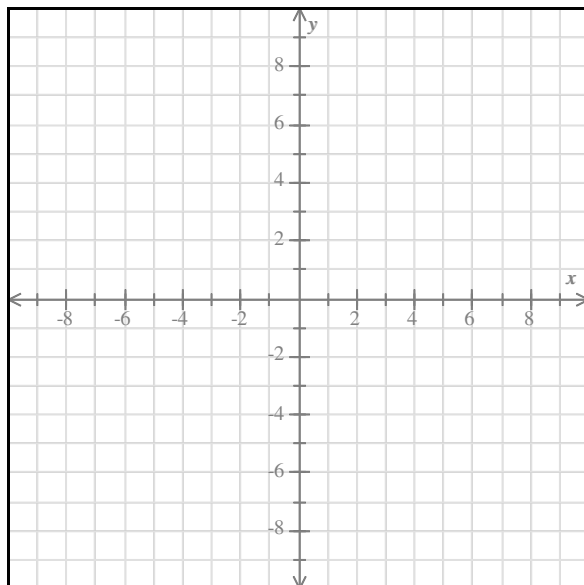
11. Graph the line.

$$y = -2x + 3$$

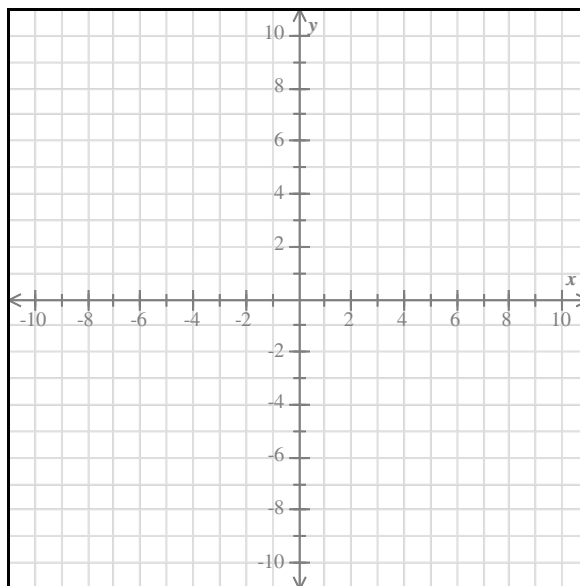


12. Graph the line.

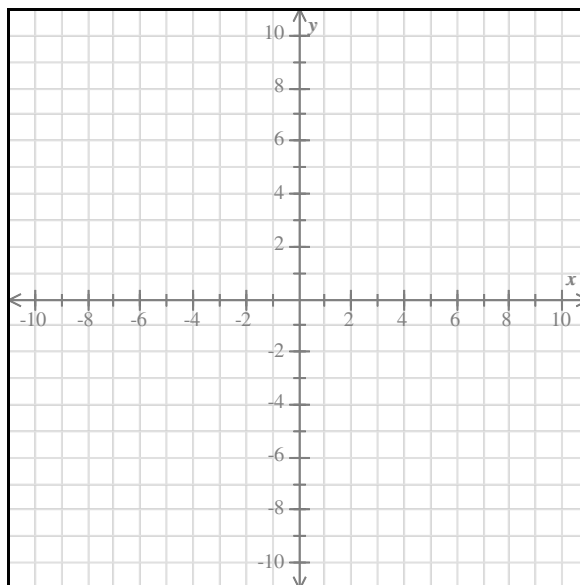
$$y = -5x + 4$$



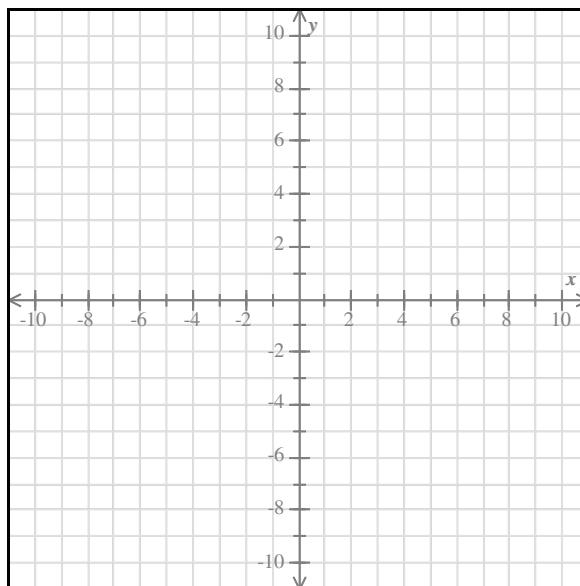
13. Graph the line with slope 3 passing through the point $(2, -1)$.



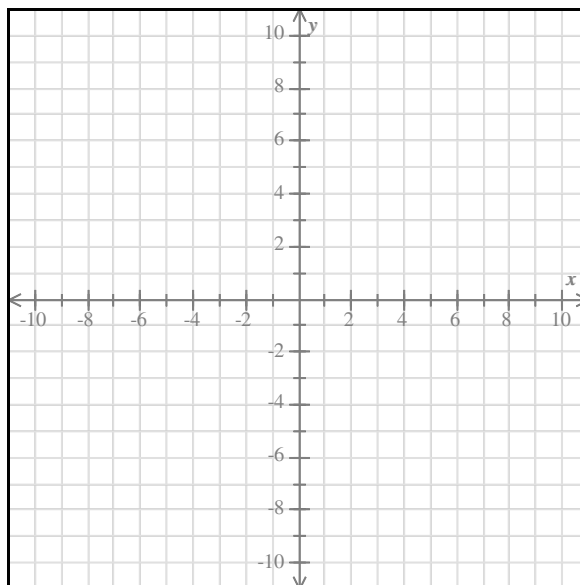
14. Graph the line with slope $\frac{3}{4}$ passing through the point $(-4, 3)$.



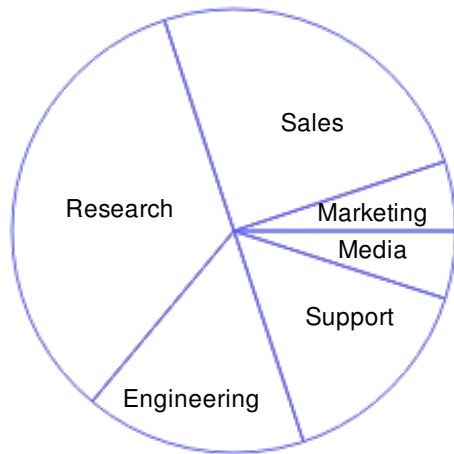
15. Graph the line with slope -1 passing through the point $(3, -2)$.



16. Graph the line with slope $\frac{1}{2}$ passing through the point $(-2, 5)$.

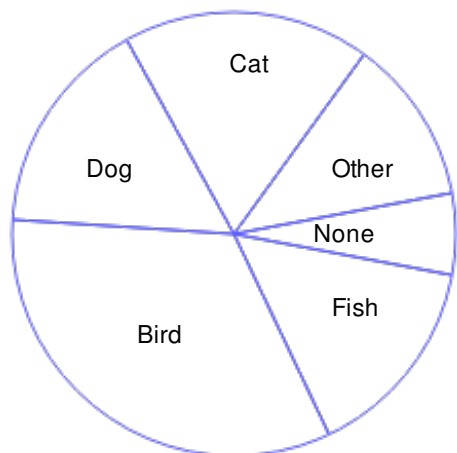


17. The pie chart below shows how the annual budget for General Manufacturers Incorporated is divided by department. Use this chart to answer the questions below.



- (a) Which department accounts for approximately one-fourth of the annual budget?
- (b) Approximately what percentage of the annual budget is used for Marketing and Sales combined?
Write your answer as a multiple of 10% - that is, 10%,20%,30%,....
- (c) If 5% of the annual budget is used for Marketing, approximately what percentage is used for Support?

18. Each person in a community was asked, "What is your favorite type of pet?" The pie chart below summarizes their responses.



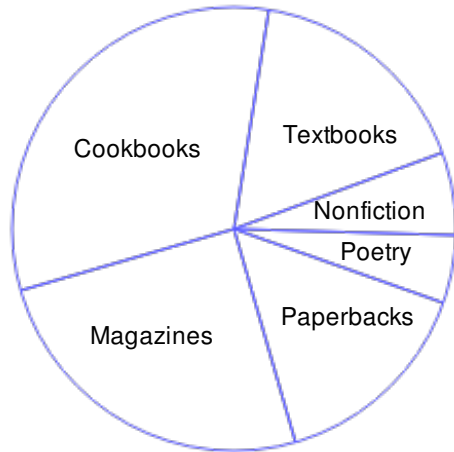
- (a) Which category was chosen by approximately one-third of the community?
- (b) Approximately what percentage of the community chose Other or Cat?
Write your answer as a multiple of 10% - that is, 10%,20%,30%,....
- (c) If 12% of the community chose Other, approximately what percentage chose None?

19. In a recent phone survey, people were asked to state their favorite type of television show. The pie chart below summarizes the responses of those surveyed.



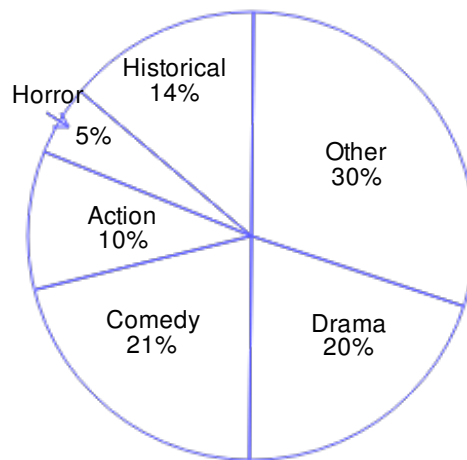
- (a) Which category was chosen by approximately one-eighth of those surveyed?
- (b) Approximately what percentage of those surveyed chose Documentary or Sports?
Write your answer as a multiple of 10% - that is, 10%,20%,30%,....
- (c) If 8% of those surveyed chose Other, approximately what percentage chose Drama?

20. The pie chart below shows the percentage of total revenue that a publisher receives from various types of publications. Use this chart to answer the questions below.

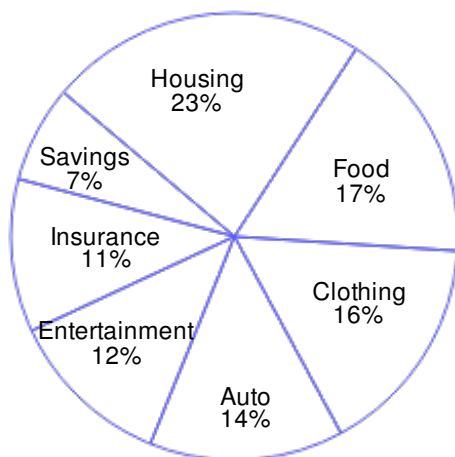


- (a) Which category accounts for approximately one-fourth of the publisher's total revenue?
- (b) Approximately what percentage of the total revenue comes from Magazines and Paperbacks combined?
Write your answer as a multiple of 10% - that is, 10%,20%,30%,....
- (c) If the revenue from Paperbacks is 15% of the total revenue, approximately what percentage of the total revenue comes from Poetry?

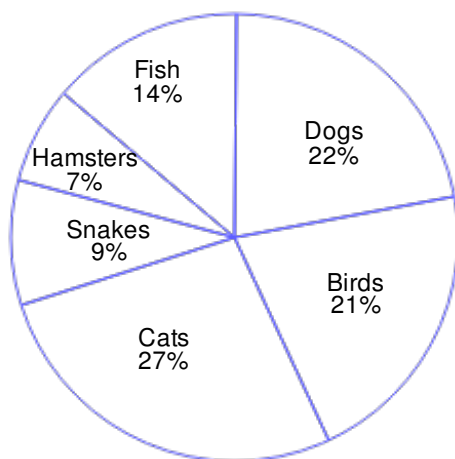
21. The students of a certain college were asked to choose which of six movie genres was their favorite. The pie chart below shows the distribution of the students' answers. If there are 9500 students at this college, how many chose Action or Drama?



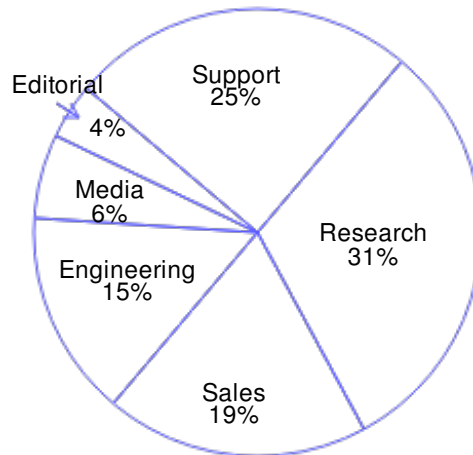
22. The pie chart below shows how the total annual income for a certain family is spent. If the total annual income is \$140,000, what amount is budgeted for Entertainment, Auto, and Savings combined?



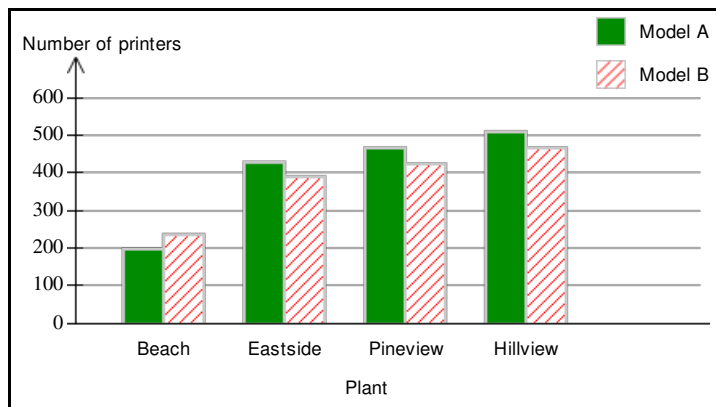
23. The citizens of a certain community were asked to choose their favorite pet. The pie chart below shows the distribution of the citizens' answers. If there are 135,000 citizens in the community, how many chose Birds, Fish, or Cats?



24. The pie chart below shows how the annual budget for a certain company is divided by department. If the total budget is \$100,000,000, what amount is budgeted for Support, Sales, and Research combined?

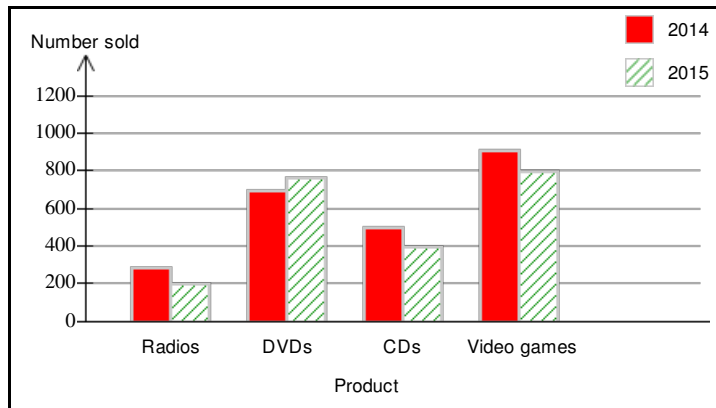


25. A small computer company runs four manufacturing plants, each of which produces two models of computer laser printers: Model A and Model B. The double bar graph below shows the number of printers of each model produced during the last year. Use this graph to answer the questions.



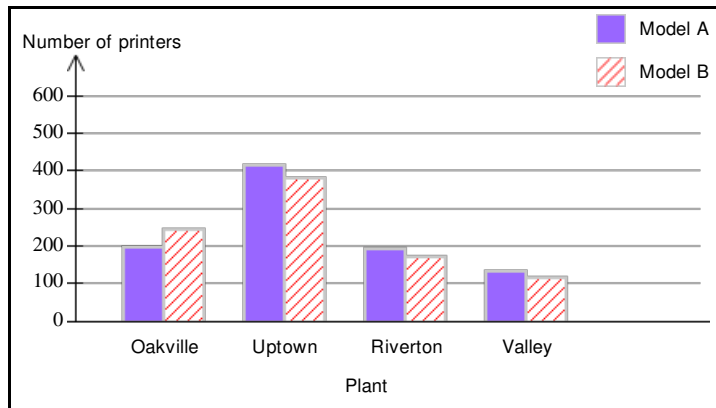
- Estimate the number of Model A printers produced at the Eastside plant.
- Which plants produced more Model A printers than Model B printers?
- Which plant produced the most printers total?

26. TrueFun Entertainment sells four types of products: radios, DVDs, CDs, and video games. The numbers sold for 2014 and 2015 are shown in the double bar graph below. Use this graph to answer the questions.



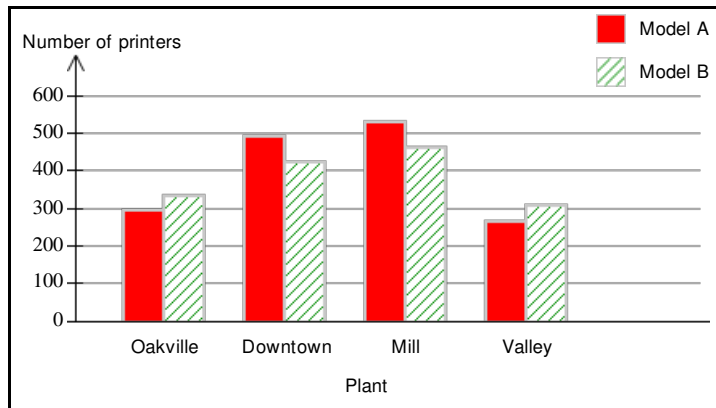
- (a) Which products sold more in 2014 than in 2015?
- (b) Which products had more than 800 sold in 2014?
- (c) Estimate the total number of CDs sold in the two years.

27. A small computer company runs four manufacturing plants, each of which produces two models of computer laser printers: Model A and Model B. The double bar graph below shows the number of printers of each model produced during the last year. Use this graph to answer the questions.



- (a) Estimate the number of Model A printers produced at the Uptown plant.
- (b) Which plants produced more Model B printers than Model A printers?
- (c) Which plant produced the fewest printers total?

28. A small computer company runs four manufacturing plants, each of which produces two models of computer laser printers: Model A and Model B. The double bar graph below shows the number of printers of each model produced during the last year. Use this graph to answer the questions.



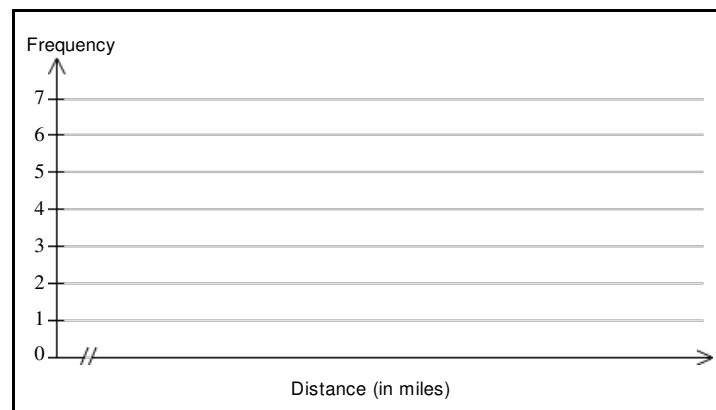
- Estimate the number of Model A printers produced at the Valley plant.
- Which plants produced more Model A printers than Model B printers?
- Which plant produced the most printers total?

29. The following are distances (in miles) traveled to the workplace by 18 employees of a certain university.

7, 2, 37, 32, 27, 22, 16, 11, 6, 1, 36, 31, 10, 10, 10, 5, 5, 40.

Draw the histogram for these data using an initial class boundary of 0.5, an ending class boundary of 45.5, and 5 classes of equal width. Note that you can add or remove classes from the figure.

Label each class with its endpoints.

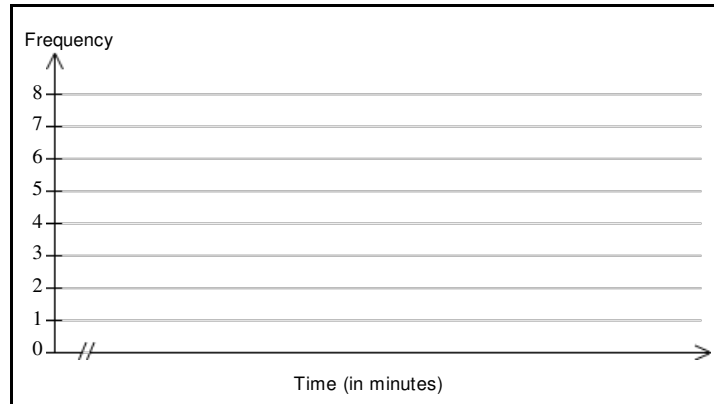


30. Here are the shopping times (in minutes) for a sample of 23 shoppers at a particular computer store:

26, 23, 44, 41, 38, 35, 31, 28, 25, 22, 43, 40, 37, 43, 43, 39, 39, 36, 36, 36, 33, 33, 33.

Draw the histogram for these data using an initial class boundary of 21.5 and a class width of 5.

Note that you can add or remove classes from the figure. Label each class with its endpoints.

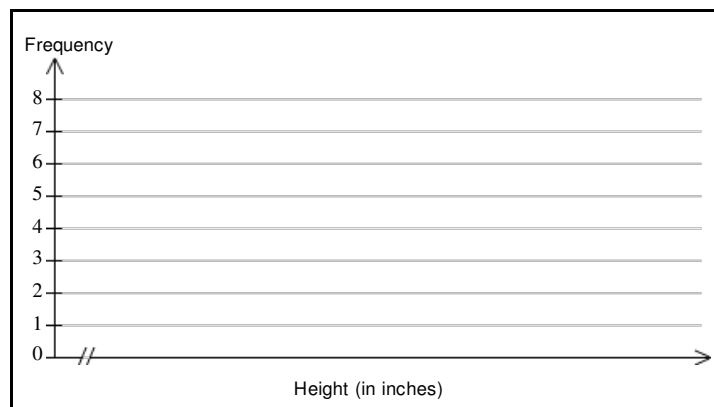


31. The heights (in inches) for a sample of 18 male adults are

62, 82, 79, 76, 73, 70, 67, 64, 69, 69, 69, 66, 66, 66, 63, 63, 60, 60.

Draw the histogram for these data using an initial class boundary of 59.5, an ending class boundary of 84.5, and 5 classes of equal width. Note that you can add or remove classes from the figure.

Label each class with its endpoints.

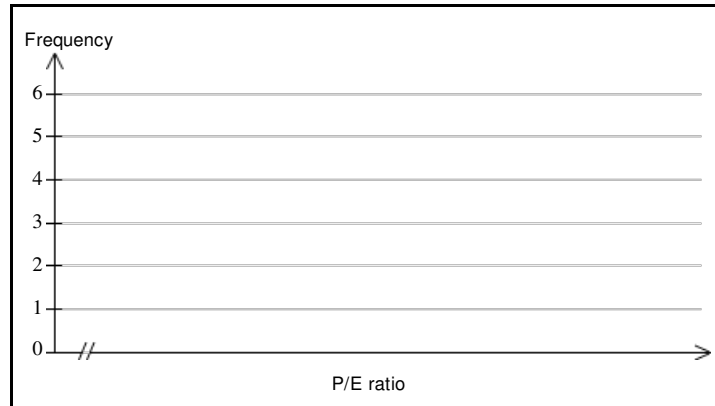


32. The following is a list of P/E ratios (current stock price divided by company's earnings per share) for 16 companies.

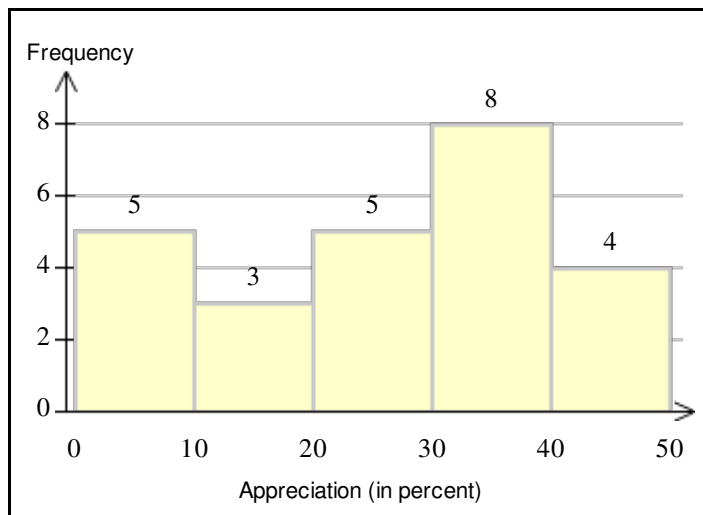
57, 53, 50, 46, 42, 35, 41, 41, 41, 37, 37, 34, 34, 30, 30, 55.

Draw the histogram for these data using an initial class boundary of 29.5 and a class width of 6.

Note that you can add or remove classes from the figure. Label each class with its endpoints.

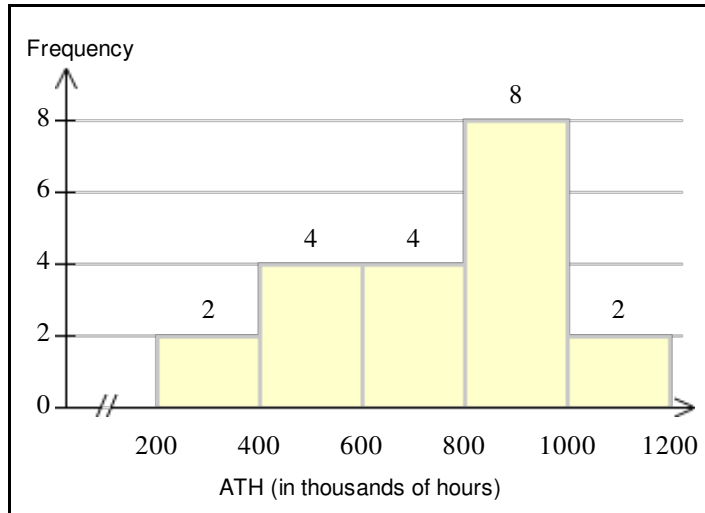


33. A realtor is displaying the histogram below, which summarizes the percentage of appreciation in value (over the past five years) for each of a sample of 25 houses in Newburg Park.



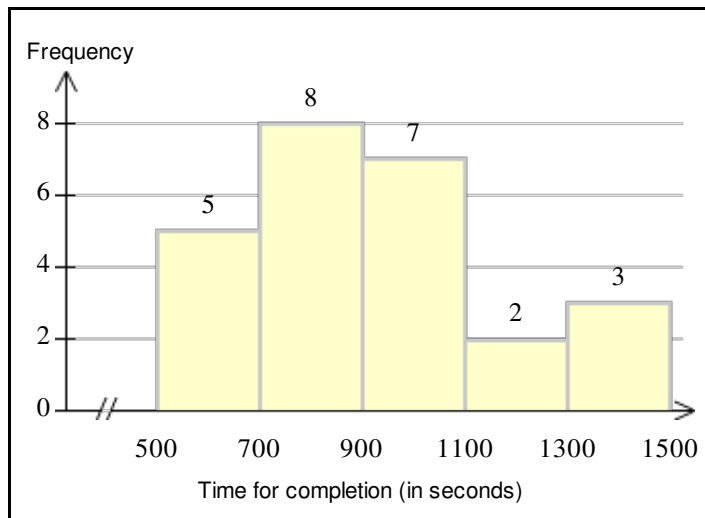
Based on the histogram, find the proportion of appreciation percentages in the sample that are less than 20 percent. Write your answer as a decimal, and do not round your answer.

34. Accu-Rating has just released its webcast report for last month. The report details the aggregate tuning hours (ATHs) for the top 20 radio stations broadcast over the web. (The ATH for a station is the sum total of all hours that listeners tuned to the station.) The report displays the following histogram:



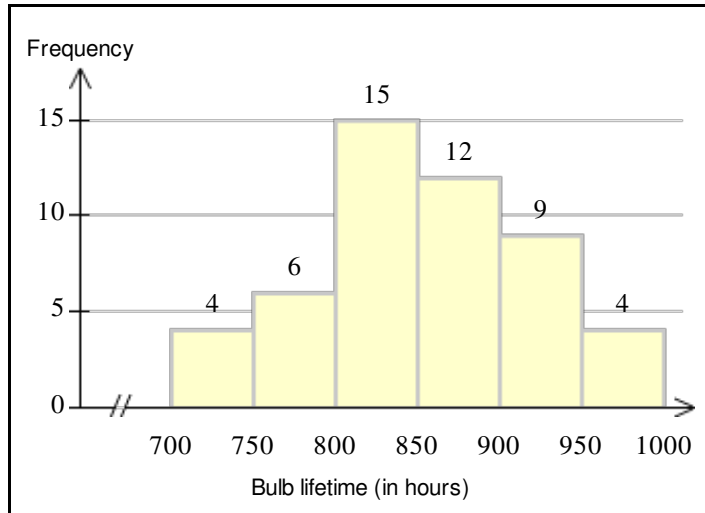
Based on the histogram, find the proportion of ATHs in the sample that are less than 800 thousand hours. Write your answer as a decimal, and do not round your answer.

35. Anagram puzzles involve sets of scrambled letters that must be rearranged to form words. A standard intelligence test employs these puzzles as an aid in assessing verbal ability. Several years ago, an undergraduate noticed that some versions of the intelligence test employed anagram puzzles with lower-case letters, and some versions employed anagram puzzles with upper-case letters. She performed experiments, with college students as participants, to examine times for completion for the two versions. The histogram below summarizes information about the times for completion for the 25 students she tested on the lower-case version.



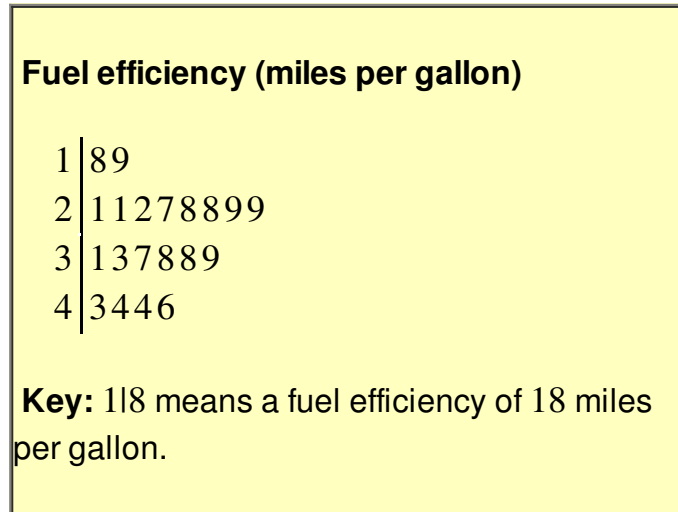
Based on the histogram, find the proportion of times for completion in the sample that are less than 700 seconds. Write your answer as a decimal, and do not round your answer.

36. A purchasing manager at a university is investigating which brand of LCD projector to purchase to equip "smart" classrooms. Of major concern to her is the lifetime of the light bulbs used in the projectors. One company has published the following information regarding the lifetimes of a sample of 50 bulbs used in its LCD projectors:



Based on the histogram, find the proportion of bulb lifetimes in the sample that are greater than or equal to 950 hours. Write your answer as a decimal, and do not round your answer.

37. The stem-and-leaf display below gives the fuel efficiencies (in miles per gallon) for a sample of 20 new cars. Use the display to answer the following questions.



- (a) What is the lowest fuel efficiency in the sample overall?
- (b) What is the highest fuel efficiency in the sample in the 20s?
- (c) How many cars in the sample have fuel efficiencies in the 30s?

38. The stem-and-leaf display below gives the test scores for the 14 students in Prof. Carter's advertising class. Use the display to answer the following questions.

Test scores

```
6 | 0
7 | 112346
8 | 12557
9 | 06
```

Key: 6|0 means a score of 60 .

- (a) What was the highest score overall?
- (b) What was the lowest score in the 70s?
- (c) How many students scored in the 80s?

39. As part of a survey, 17 adults were asked, "How many hours did you spend at your job last week?" The results are shown in the stem-and-leaf display below. Answer the questions that follow.

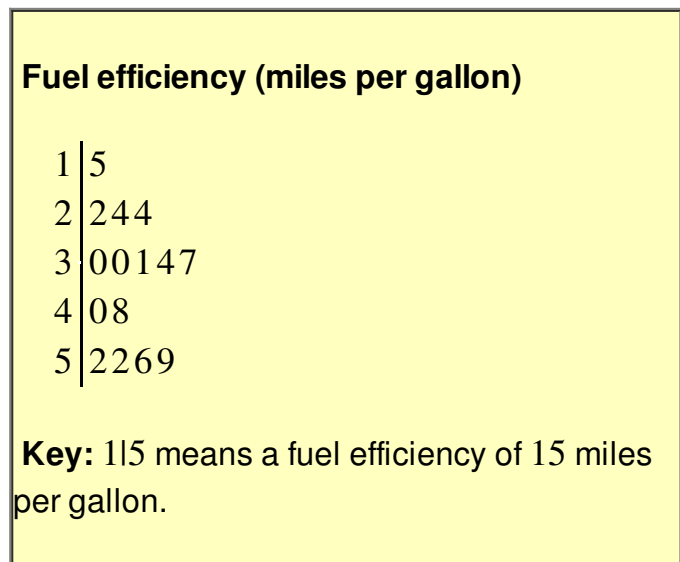
Number of hours worked last week

```
2 | 3
3 | 23366789
4 | 01448
5 | 123
```

Key: 2|3 means 23 hours.

- (a) What was the highest number of hours worked in the 30s?
- (b) What was the least number of hours worked overall?
- (c) How many responses fell in the 40s?

40. The stem-and-leaf display below gives the fuel efficiencies (in miles per gallon) for a sample of 15 new cars. Use the display to answer the following questions.



- (a) What is the highest fuel efficiency in the sample overall?
- (b) What is the lowest fuel efficiency in the sample in the 20s?
- (c) How many cars in the sample have fuel efficiencies in the 10s?

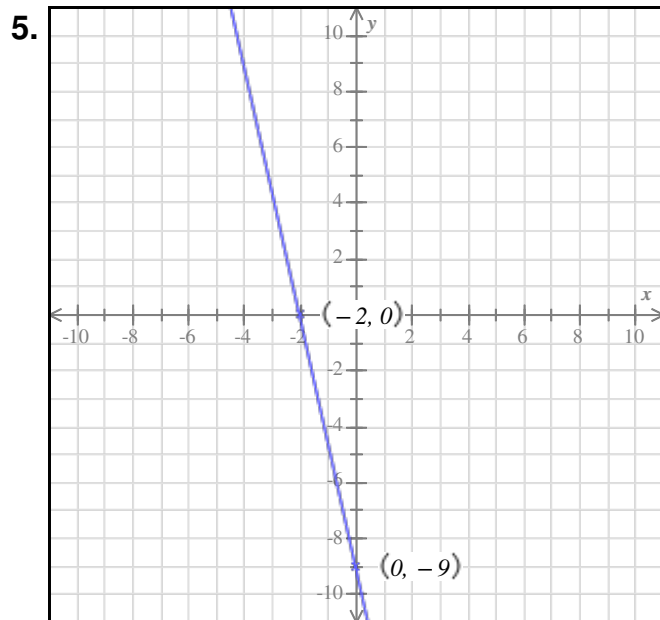
Homework 2 #1 Answers for class Introduction to Statistics / Math 117 Statistics

1. $y = -x$

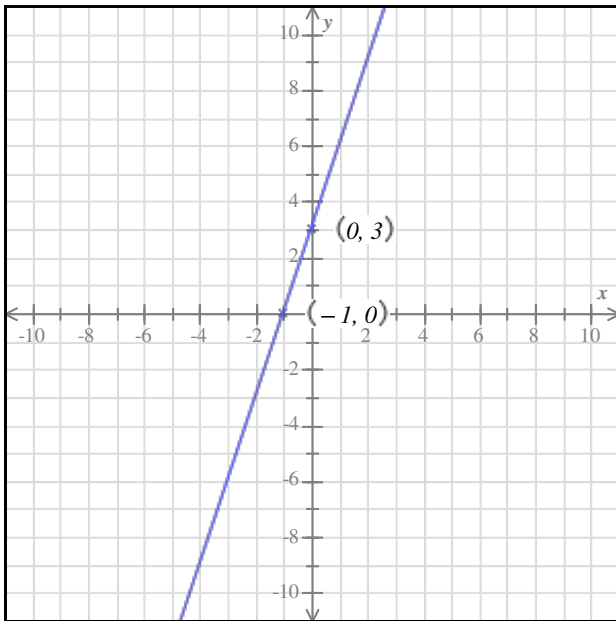
2. $y = -\frac{2}{5}x + 4$

3. $y = \frac{4}{5}x - 1$

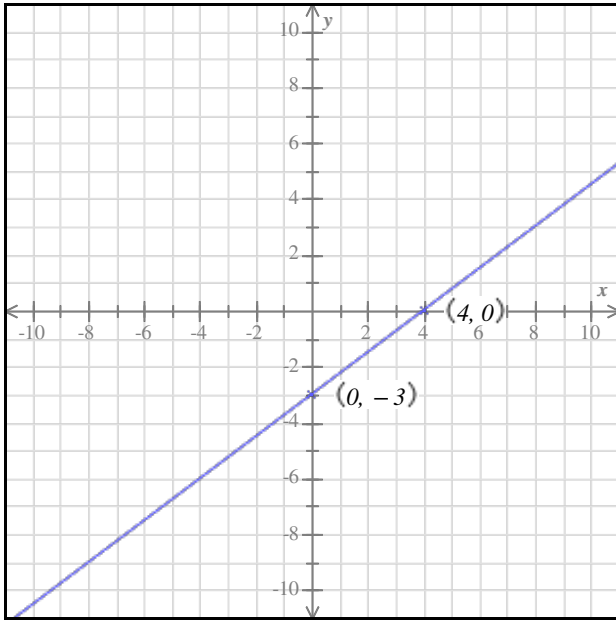
4. $y = -2x - 2$

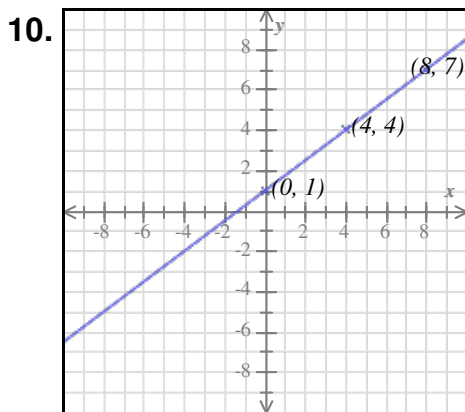
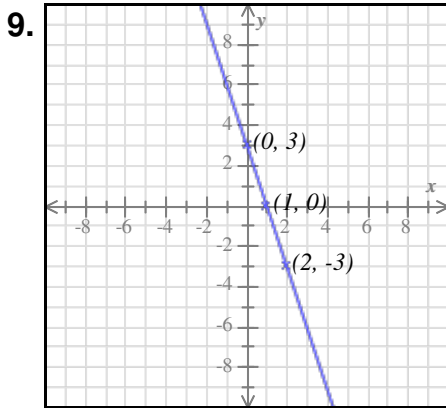
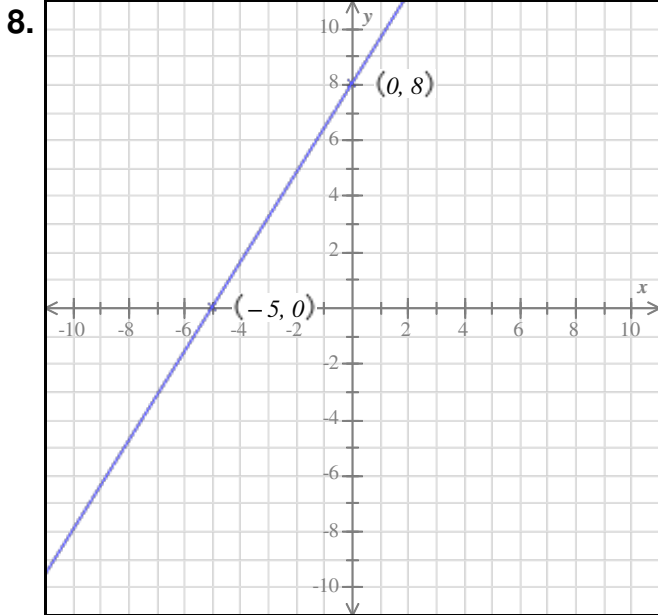


6.

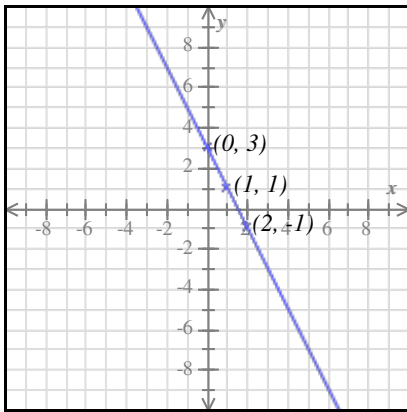


7.

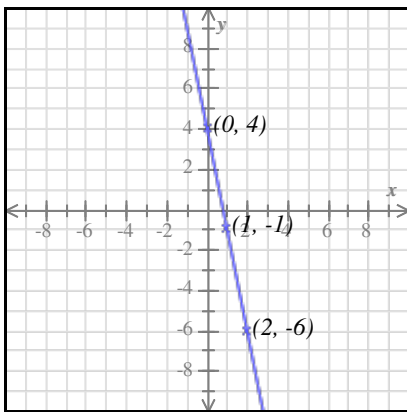




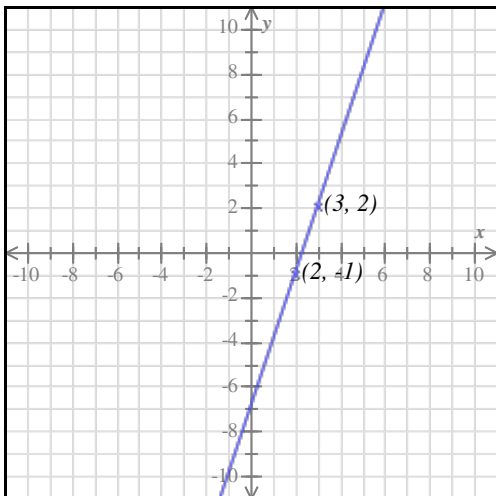
11.

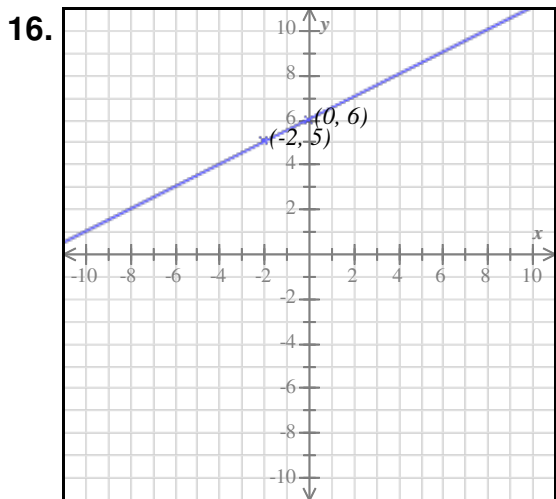
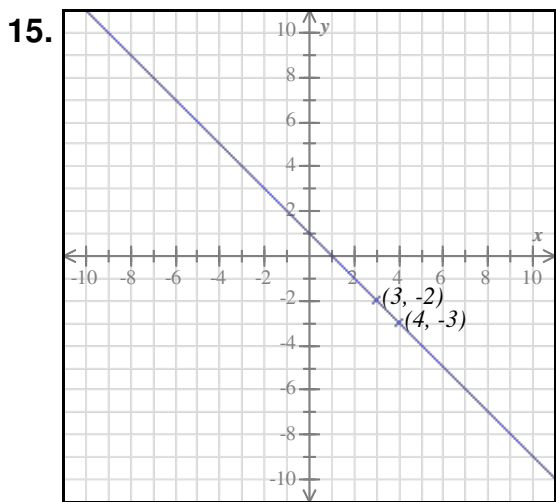
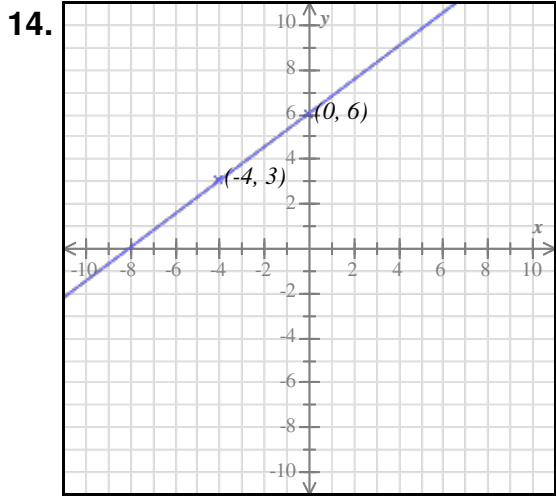


12.



13.





- 17.**
- (a) Which department accounts for approximately one-fourth of the annual budget?
Sales
 - (b) Approximately what percentage of the annual budget is used for Marketing and Sales combined?
Write your answer as a multiple of 10% - that is, 10%,20%,30%,....
30%
 - (c) If 5% of the annual budget is used for Marketing, approximately what percentage is used for Support?
15%
- 18.**
- (a) Which category was chosen by approximately one-third of the community?
Bird
 - (b) Approximately what percentage of the community chose Other or Cat?
Write your answer as a multiple of 10% - that is, 10%,20%,30%,....
30%
 - (c) If 12% of the community chose Other, approximately what percentage chose None?
6%
- 19.**
- (a) Which category was chosen by approximately one-eighth of those surveyed?
Documentary
 - (b) Approximately what percentage of those surveyed chose Documentary or Sports?
Write your answer as a multiple of 10% - that is, 10%,20%,30%,....
20%
 - (c) If 8% of those surveyed chose Other, approximately what percentage chose Drama?
24%

20.

- (a) Which category accounts for approximately one-fourth of the publisher's total revenue?

Magazines

- (b) Approximately what percentage of the total revenue comes from Magazines and Paperbacks combined?

Write your answer as a multiple of 10% - that is, 10%,20%,30%,....

40%

- (c) If the revenue from Paperbacks is 15% of the total revenue, approximately what percentage of the total revenue comes from Poetry?

5%

21. 2850

22. \$46,200

23. 83,700

24. \$75,000,000

25.

- (a) Estimate the number of Model A printers produced at the Eastside plant.

430 Model A printers

- (b) Which plants produced more Model A printers than Model B printers?

Eastside, Pineview, and Hillview

- (c) Which plant produced the most printers total?

Hillview

26.

- (a) Which products sold more in 2014 than in 2015?

radios, CDs, and video games

- (b) Which products had more than 800 sold in 2014?

video games

- (c) Estimate the total number of CDs sold in the two years.

900 CDs

27.

- (a) Estimate the number of Model A printers produced at the Uptown plant.

420 Model A printers

- (b) Which plants produced more Model B printers than Model A printers?

Oakville

- (c) Which plant produced the fewest printers total?

Valley

28.

(a) Estimate the number of Model A printers produced at the Valley plant.

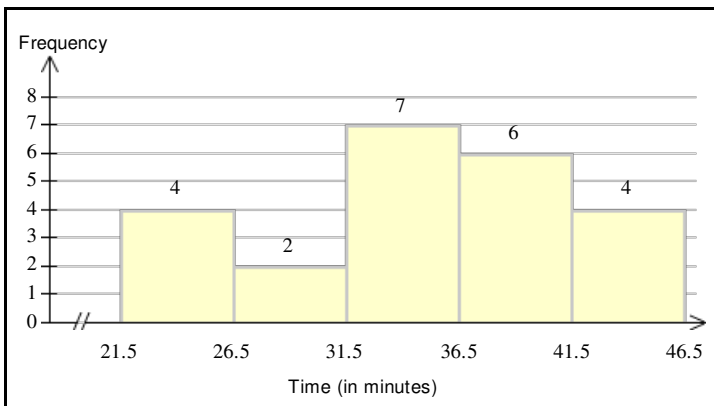
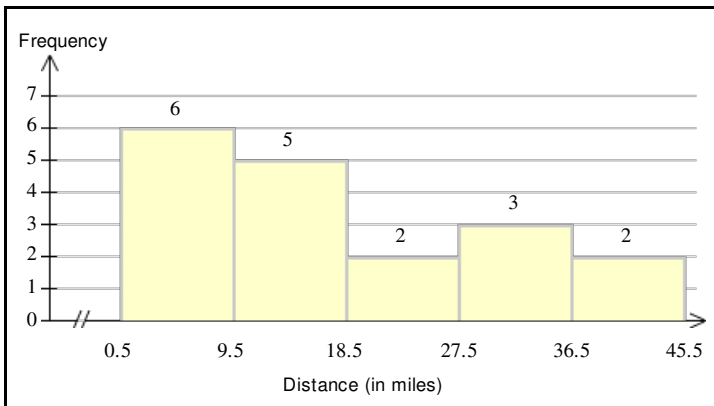
270 Model A printers

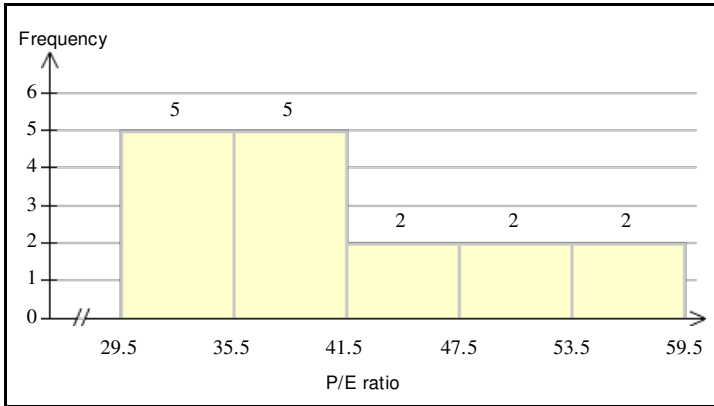
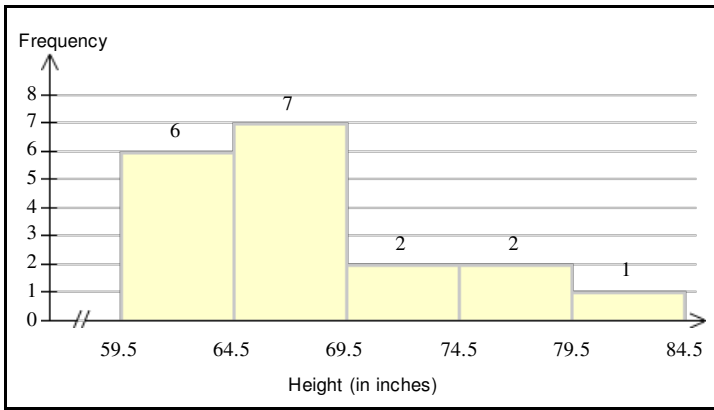
(b) Which plants produced more Model A printers than Model B printers?

Downtown and Mill

(c) Which plant produced the most printers total?

Mill





33. 0.32

34. 0.5

35. 0.2

36. 0.08

37. (a) What is the lowest fuel efficiency in the sample overall? 18

(b) What is the highest fuel efficiency in the sample in the 20s? 29

(c) How many cars in the sample have fuel efficiencies in the 30s? 6

38. (a) What was the highest score overall? 96

(b) What was the lowest score in the 70s? 71

(c) How many students scored in the 80s? 5

39. (a) What was the highest number of hours worked in the 30s? 39

(b) What was the least number of hours worked overall? 23

(c) How many responses fell in the 40s? 5

40. (a) What is the highest fuel efficiency in the sample overall? 59

(b) What is the lowest fuel efficiency in the sample in the 20s? 22

(c) How many cars in the sample have fuel efficiencies in the 10s? 1