

Student: _____
Date: _____

Instructor: Nagalingam Balakrishnan
Course: MATHematical Reasonining

Assignment: CPLEXAm

Practice

1. On average, a bird visits 1,010 flowers per day for nectar.

Part A: How many flowers does the bird visit in an hour? Round your answer to the nearest whole flower.

Part B: How many flowers does the bird visit in a year?

Part A: The bird visits about flowers per hour.
(Round to the nearest whole number as needed.)

Part B: The bird visits about flowers per year.
(Round to the nearest whole number as needed.)

2. An animal breathes approximately 5 times per minute.

Part A: About how many seconds would it take to breathe one million times?

Part B: How many minutes would it take to breathe one million times?

Part C: How many hours would it take to breathe one million times?

Part D: How many days would it take to breathe one million times?

Part E: How many years would it take to breathe one million times?

Part A: It would take seconds to breathe one million times.
(Round to the nearest second as needed.)

Part B: It would take minutes to breathe one million times.
(Round to the nearest minute as needed.)

Part C: It would take hours to breathe one million times.
(Round to the nearest hour as needed.)

Part D: It would take days to breathe one million times.
(Round to the nearest day as needed.)

Part E: It would take years to breathe one million times.
(Round to the nearest hundredth as needed.)

3. Place value extends to the right of the decimal to represent numbers less than 1. Complete the missing names in the chart and fill in the power of 10 that corresponds to each position on the place value chart. Then determine where the decimal point should appear in the place value chart.

Complete the missing names in the chart and fill in the power of 10 that corresponds to each position on the place value chart.

(Type your answers using exponential notation.)

Name label	Power of 10
(1) <input type="text"/>	<input type="text"/>
Hundred thousands	<input type="text"/>
Ten thousands	<input type="text"/>
Thousands	<input type="text"/>
(2) <input type="text"/>	10^2
Tens	10^1
Ones	10^0
Tenths	10^{-1}
(3) <input type="text"/>	<input type="text"/>
(4) <input type="text"/>	<input type="text"/>
(5) <input type="text"/>	<input type="text"/>
Hundred thousandths	<input type="text"/>

Between which two digits in the place value chart does the decimal point appear?

- ☐ A. Ones and tenths
☐ B. Hundreds and thousands
☐ C. Tens and ones
☐ D. Thousandths and ten thousandths

- (1) ☐ Millions (2) ☐ Hundreds (3) ☐ Hundredths (4) ☐ Ten thousandths
☐ Ten thousands ☐ Tenths ☐ Ten hundredths ☐ Millionths
☐ Millionths ☐ Tens ☐ Thousandths ☐ Thousandths
☐ Thousand hundreds ☐ Hundredths ☐ Tens ☐ Hundredths
- (5) ☐ Ten hundredths
☐ Thousandths
☐ Ten thousandths
☐ Millionths

4. Some types of investments—such as Certificates of Deposit—earn interest based on a percentage rate. People often estimate the doubling time of investments to predict how much money the investment will be worth in the future. An investment that earns 4% interest will double in value about every 18 years. Use this information to answer questions 1 and 2 below.

1) Use the information above to complete the missing values in the table below for \$4,500 invested at 4% interest.

Year		Value of Investment	
2000		\$4,500	
		\$9,000	
		\$18,000	
2054		\$	

2) Which of the following is the best estimate for the amount of time it would take the investment in the table above to reach \$150,000?

- ☐ A. Less than 72 years
- ☐ B. Between 72 and 90 years
- ☐ C. More than 108 years
- ☐ D. Between 90 and 108 years
-
5. In one year, the Centers for Disease Control and Prevention (CDC) estimated that about 58,780,000 adults were obese. What is this number in scientific notation?

Choose the correct answer below.

- ☐ A. About 0.5878×10^8 adults were obese.
- ☐ B. About 5.88×10^4 adults were obese.
- ☐ C. About 5.88×10^7 adults were obese.
- ☐ D. About 58.78×10^6 adults were obese.
- ☐ E. About 5.88×10^6 adults were obese.

6. Over the past several years, there has been a dramatic increase in obesity rates in a certain country. One website noted that approximately 17 out of 100 adults in this country were obese in 1995. Use this information to complete questions 3) through 7) below.

3) What was the percentage of adults who were obese in 1995?

- ☐ A. 1.7% of adults in this country were obese in 1995.
- ☐ B. 17% of adults in this country were obese in 1995.
- ☐ C. 0.17% of adults in this country were obese in 1995.
- ☐ D. 0.017% of adults in this country were obese in 1995.
- ☐ E. 7.25% of adults in this country were obese in 1995.

4) There were 25.6 million obese adults in this country in 1995. If there were 53.2 million obese adults in 2010, about how many more adults were obese in 2010 than in 1995? Record your answer in scientific notation.

- ☐ A. 27.6×10^6
- ☐ B. 2.8×10^7
- ☐ C. 0.28×10^8
- ☐ D. $2,756 \times 10^6$
- ☐ E. 2.8×10^4

5) Choose the best sentence to represent the answer to the previous question.

- ☐ A. The number of adults who were obese grew by about 27.6 million between 1995 and 2010.
- ☐ B. There were about 2,756 million more in 2010.
- ☐ C. In 2010, the number of obese adults more than doubled.
- ☐ D. By 2010, there were about 2.8 million obese adults.
- ☐ E. The number of obese adults grew by about 27.6 million.

6) The population of this country was 306.3 million by 2012. Assuming that 13% of the population had diabetes, how many people had diabetes in 2012? Express your answer in scientific notation.

- ☐ A. 1.99×10^7
- ☐ B. 3.98×10^7
- ☐ C. 1.99×10^1
- ☐ D. 3.98×10^1

7) As of 2013, 25.8 million adults in this country had diabetes, but only 18.5 million adults knew of their diagnosis. What percentage of adults in this country with diabetes do not know they have the condition?

- ☐ A. 28%
- ☐ B. 138%
- ☐ C. 13%
- ☐ D. 72%

7. The table shown gives total motor vehicle registrations and total populations in a year for selected states. Complete parts a) through f) below.

State	Population (in millions)	Motor vehicle registrations (in millions)
State A	37.5	31.0
State B	0.8	0.6
State C	13.5	10.8

- a) Of the three states listed, which has the highest population?

State (1) has the highest population.

- b) Which state has the most registered vehicles?

State (2) has the most registered vehicles.

- c) What was State B's population that year? Write your answer in standard form.

Population =

- d) How many motor vehicles were registered in State B in that year? Write your answer in standard form.

There were registered vehicles.

- e) What is the ratio of people to vehicles in State B?

The ratio is .

(Type an integer or decimal rounded to the nearest hundredth as needed.)

- f) Which sentence best expresses the value found in the previous question? Select all that apply.

- ☐ A. There were approximately 0.75 vehicles per person in State B in that year (less than 1 vehicle per person).
- ☐ B. There were approximately 0.75 people per vehicle in State B in that year (less than 1 vehicle per person).
- ☐ C. There were approximately 1.33 people per vehicle in State B in that year (slightly over 1 person per vehicle).
- ☐ D. There were approximately 1.33 vehicles per person in State B in that year (slightly over 1 person per vehicle).

- (1) ☐ B (2) ☐ B
☐ C ☐ C
☐ A ☐ A

8. Which of the following is NOT a good strategy for estimating the sale price of a \$46.95 shirt that is advertised as "25% off"?

Choose the operation below that does not give a good estimate of the sale price of the shirt.

- ☐ A. Divide \$50 by 4 and subtract the result from \$50.
- ☐ B. Multiply \$50 by $\frac{3}{4}$.
- ☐ C. Multiply \$50 by 0.75.
- ☐ D. Multiply \$50 by 0.25.

9. At Gillway Community College, 49 out of 292 students earned honors. At Montessa Valley Community College, 34 out of 186 students earned honors. Complete 7) through 12) below.

7) Calculate the rate at which Gillway Community College students earned honors. Round to the nearest 1%.

%

8) Calculate the rate at which Montessa Valley Community College students earned honors. Round to the nearest 1%.

%

9) Which school had more total students earning honors?

- ☐ Gillway Community College
- ☐ Montessa Valley Community College

10) Which school had a higher rate of students earning honors?

- ☐ Gillway Community College
- ☐ Montessa Valley Community College

11) If a school has a higher rate of students earning honors, does that mean that more students earned honors at that school?

- ☐ Yes
- ☐ No

12) Select all of the options that are correct statements about the rate at which Gillway students earned honors. There may be more than one correct answer.

- ☐ A. Just over 16% of Gillway students earned honors.
- ☐ B. More than 15% of Gillway students earned honors.
- ☐ C. Almost 16% of Gillway students earned honors.
- ☐ D. Just under 16% of Gillway students earned honors.
- ☐ E. About 16% of Gillway students earned honors.

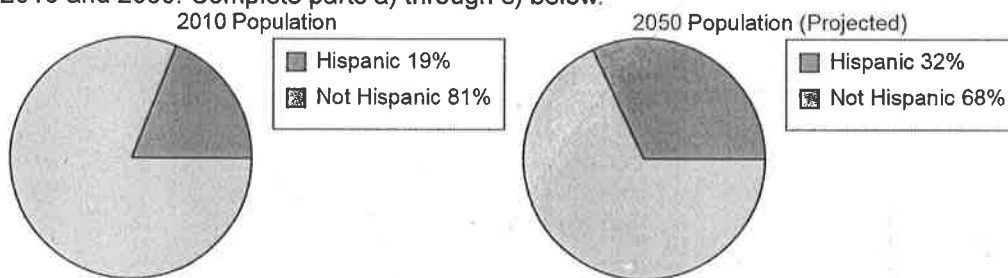
10. Select all of the options that are either exactly equal to the given ratio or a good estimate of the ratio. There may be more than one correct answer.

5 out of 1,000

Select all that apply.

- ☐ A. close to $\frac{1}{5}$
- ☐ B. less than 1%
- ☐ C. 0.5%
- ☐ D. more than 5%
- ☐ E. about 5%

11. This pair of graphs predicts that the number of non-Hispanics in a certain country is expected to decline between 2010 and 2050. Complete parts a) through c) below.



a) Is the statement true or false? Explain your reasoning.

- ☐ A. The statement is false. It is not possible to tell if the number of non-Hispanics is expected to decline based on percentages alone.
- ☐ B. The statement is true. The percentage of Hispanics has increased; therefore, the number of non-Hispanics will decline.
- ☐ C. The statement is true. The percentage of non-Hispanics has declined; therefore, the number of non-Hispanics will also decline.
- ☐ D. The statement is false. As the percentage of non-Hispanics declines the number of non-Hispanics will actually increase.

b) What important information is missing from the chart?

- ☐ A. The actual numbers in each group for the current and projected populations are missing.
- ☐ B. The total percentages of each pie chart are missing.
- ☐ C. The ratios of Hispanics to non-Hispanics for the current and projected populations are missing.
- ☐ D. The percentages of people that make up the non-Hispanics group for the current and projected populations are missing.

c) What other ways could this data be represented?

- ☐ A. Pie charts are the only way to represent data that is made up of percentages.
- ☐ B. The data could also be represented using a box and whisker plot.
- ☐ C. The data could also be represented using a population vs time graph.
- ☐ D. The data could also be represented using a table.

12. Convert $\frac{15}{7}$ to a decimal and to a percentage.

Convert $\frac{15}{7}$ to a decimal.

$$\frac{15}{7} = \boxed{}$$

(Round to the nearest thousandth as needed.)

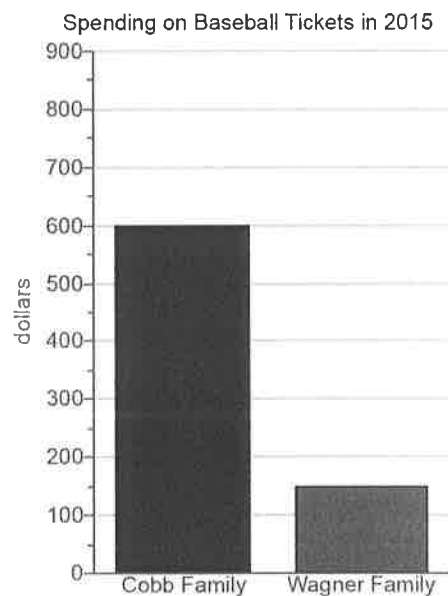
Convert $\frac{15}{7}$ to a percentage.

$$\frac{15}{7} = \boxed{}\%$$

(Round to the nearest tenth as needed.)

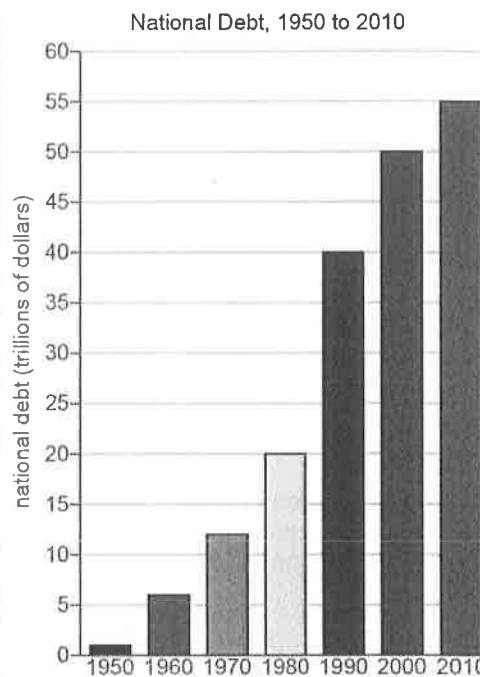
13. The bar graph to the right shows how much money two families spend on baseball tickets in 2015. What percent of the Cobb family's expenditure is the Wagner family's expenditure?

The Wagner family's expenditure is % of the Cobb family's expenditure.
(Simplify your answer.)



14. The national debt is the money the government owes. The graph to the right shows a country's national debt for various years. What is the percent increase in national debt from 1980 to 1990?

The percent increase in national debt from 1980 to 1990 is %.



15. How many cars have highway MPG ratings in the 20s?

**2013 Model A Passenger Cars, Pickups, SUVs
Highway Miles per Gallon (Gas-Powered)**

Stem	Leaf	Key: 1 5 means 15 mpg
1	5 7 7 8 8 8 9 9	
2	0 0 1 1 1 1 1 1 2 2 3 3 3 3 3 3 3 4 4 4 4 4 4	
2	5 6 6 8 8 9 9 9	
3	0 0 0 2 2 3 4 4	
3	5 5 5 5 6 6 7 7 7 7 7 8 8 8	
4	0 2 2	

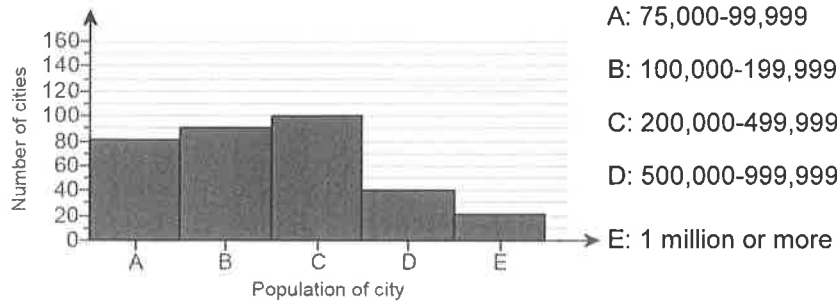
Choose the correct answer below.

- ☐ A. 22
☐ B. 14
☐ C. 8
☐ D. Not enough information to say
16. The students in a statistics class ran an experiment, rolling a die 90 times. The frequency table below shows the results of the experiment. What is the relative frequency of the value "5"?

Value Rolled	Frequency
1	18
2	16
3	5
4	11
5	10
6	

The relative frequency of the value "5" is %.
(Type an integer or decimal rounded to the nearest tenth as needed.)

17. The number of cities with populations of 75,000 or more is depicted in the histogram to the right. How many cities have a population of 200,000 or more?



cities have a population of 200,000 or more.
(Type a whole number.)

18. Bimodal data has a distribution with two peaks. What characteristic among fifth graders may explain why the "Heights of Fifth Graders" dotplot is bimodal?



Select all that apply.

- ☐ A. The two peaks could be two sets of students, boys and girls.
- ☐ B. The two peaks could be caused by differences in the way that different students' height was measured.
- ☐ C. The two peaks could be caused by age differences among the students.
- ☐ D. The two peaks could be two sets of students, those who are going through puberty and those who are not.

19. Find the mean, median, and mode(s) of the following set of numbers. Round to the nearest tenth, where necessary.

14, 16, 27, 12, 27, 17, 13

The mean is .

The median is .

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A. The mode(s) is/are .
(Use a comma to separate answers as needed.)
- ☐ B. There is no mode.

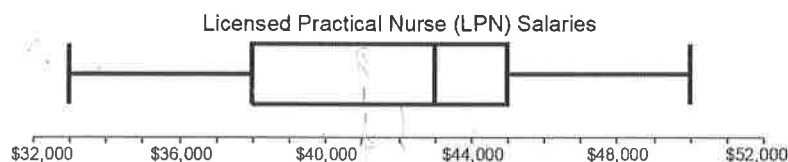
20. Which statistic (mean, median, or mode) is most appropriate in the following situation?

The offensive line of a football team is larger than in previous years. The program will list a statistic to show this fact. Explain.

Choose the correct answer below.

- ☐ A. The mean is the most appropriate choice because the weight of each offensive lineman should contribute to the average regardless of how large or small each offensive lineman is. The median and mode can be distorted if the number of offensive linemen is large.
- ☐ B. The mode is the most appropriate choice because it is the most frequent number. The weights of each offensive lineman should be relatively the same. This is much easier to calculate than the median or mean.
- ☐ C. The median is the most appropriate choice because the median is not affected by an offensive lineman whose weight is much larger or smaller than the others. A very large or small offensive lineman could distort the mean. The mode is inappropriate because it is unlikely multiple offensive linemen will be the same weight.
- ☐ D. Any statistic will accurately determine the average size of a particular offensive lineman.

21. The boxplot shows licensed practical nurse (LPN) salaries for a particular region. What salary do 50% of LPNs in the region earn at or above?



The salary that 50% of LPNs in the region earn at or above is \$.

22. Suppose the annual percentage rate (APR) given to someone with a high credit score is 11% and the APR given to a person with a low credit score is 16%. How much more in interest would you pay in one year for a balance of \$3,000 if you have a low credit score compared to having a high credit score?

The difference in interest would be \$.

(Type an integer or a decimal.)

23. The statements below came from two websites that report predictions about credit card debt in 2010:
- "In 2010, citizens of a certain country have over \$887 billion in credit card debt and that figure is expected to rise to \$1.174 trillion this year."
- "The debt in 2010 is expected to grow to a projected 1,174 billion dollars."

Do these two websites project the same amount of debt?

The two quantities (1) In scientific notation, 1.174 trillion dollars is (2) and 1,174 billion dollars is (3) In standard form, 1.174 trillion dollars is (4) and 1,174 billion dollars is (5)

- (1) ☐ differ. (2) ☐ 1.174×10^9 (3) ☐ 1.174×10^9 (4) ☐ 1,174,000,000
☐ are equal. ☐ 1.174×10^{12} ☐ 1.174×10^{12} ☐ 1,174,000,000,000
- (5) ☐ 1,174,000,000,000.
☐ 1,174,000,000.

24. The United States government requires that businesses pay into two national insurance programs--Social Security and Medicare--that help senior citizens pay for their personal expenses and health care. Businesses take money out of their employees' paychecks in order to pay the government. An employer deducts Social Security and Medicare taxes from the employees' paychecks, and sends the money to the government. Also, the business pays a portion of the taxes for the employees. The Federal Insurance Contributions Act (FICA) requires these tax payments, so these taxes are referred to as FICA taxes.

Who pays Social Security and Medicare taxes to the government, and where does the money come from?

Choose the correct answer below.

- ☐ A. Only people who are self-employed pay Social Security and Medicare taxes. The money comes from a portion of the profits the individual makes from being self-employed.
- ☐ B. Businesses pay Social Security and Medicare taxes. The money comes from a portion of donations that the business makes each year.
- ☐ C. Employees pay Social Security and Medicare taxes. They must send a check to the government each month. Businesses do not need to pay these taxes.
- ☐ D. Businesses and employees pay Social Security and Medicare taxes. The money comes from the taxpayers' paychecks. People who are self-employed must pay a self-employment tax.

25. Martin Binford is an author. Assume that line 29 of his 1040 form has a 0 amount. He earned \$143,391 from his books. He had \$3,942 in expenses. How much self-employment tax does he owe?

¹ Click the icon to view the 2010 Self-Employment Tax Schedule SE (Form 1040).

Martin Binford will have to pay \$ in self-employment taxes.
(Round to the nearest cent as needed.)

1: Schedule SE (Form 1040) 2010

Section A—Short Schedule SE. Caution. Read above to see if you can use Short Schedule SE.

1a	Net farm profit or (loss) from Schedule F, line 36, and farm partnerships, Schedule K-1 (Form 1065), box 14, code A	1a	
b	If you received social security retirement or disability benefits, enter the amount of Conservation Reserve Program payments included on Schedule F, line 6b, or listed on Schedule K-1 (Form 1065), box 20, code Y	1b	(
2	Net profit or (loss) from Schedule C, line 31; Schedule C-EZ, line 3; Schedule K-1 (Form 1065), box 14, code A (other than farming); and Schedule K-1 (Form 1065-B), box 9, code J1. Ministers and members of religious orders, see page SE-1 for types of income to report on this line. See page SE-3 for other income to report	2	
3	Combine lines 1a, 1b, and 2. Subtract from that total the amount on Form 1040, line 29, or Form 1040NR, line 29, and enter the result (see page SE-3)	3	
4	Multiply line 3 by 92.35% (.9235). If less than \$400, you do not owe self-employment tax; do not file this schedule unless you have an amount on line 1b ▶	4	
Note. If line 4 is less than \$400 due to Conservation Reserve Program payments on line 1b, see page SE-3.			
5	Self-employment tax. If the amount on line 4 is: • \$106,800 or less, multiply line 4 by 15.3% (.153). Enter the result here and on Form 1040, line 56, or Form 1040NR, line 54 • More than \$106,800, multiply line 4 by 2.9% (.029). Then, add \$13,243.20 to the result. Enter the total here and on Form 1040, line 56, or Form 1040NR, line 54	5	
6	Deduction for one-half of self-employment tax. Multiply line 5 by 50% (.50). Enter the result here and on Form 1040, line 27, or Form 1040NR, line 27	6	

For Paperwork Reduction Act Notice, see your tax return instructions.

Cat. No. 11358Z

Schedule SE (Form

26. Tomorrow is Boss' Day. You find two knickknacks that your boss will like, each on sale. The first knickknack is 70% off and the second is 30% off. The original price of the first knickknack is \$50 and the original price of the second knickknack is \$40. Which knickknack will cost you less?

The (1) knickknack is a better bargain.

- (1) ☐ \$50
☐ \$40

27. What are the odds that a home will be broken into this year? Unfortunately, according to burglary statistics within a country, one in every thirty-five homes will be burglarized in this year alone, resulting in an average loss of \$1,625 per break-in. How many homes out of 1,000 will be burglarized in the year?

Approximately homes out of 1,000 will be burglarized.
(Round to the nearest whole number as needed.)

28. A jar contains sixteen pieces of candy but only one is butterscotch flavored. If you blindly select one candy from the jar, what is the probability the candy is butterscotch? Express your answer as a percent.

The probability the candy is butterscotch is approximately %.

(Round to the nearest tenth as needed.)

29. A news article reports that a university is raising tuition by 7.2%. Answer questions 3 and 4 below.

3) Prior to the increase, 15 credit hours cost \$8,156. How much more will students pay for 15 credit hours after the tuition increase?

4) A typical degree requires 120 credit hours. How much more will an incoming freshman pay for his or her degree under the new tuition rate than under the previous tuition rate?

3) Prior to the increase, 15 credit hours cost \$8,156. How much more will students pay for 15 credit hours after the tuition increase?

Students will have to pay \$ more for 15 credit hours.

(Round to the nearest cent as needed.)

4) A typical degree requires 120 credit hours. How much more will an incoming freshman pay for his or her degree under the new tuition rate than under the previous tuition rate?

An incoming freshman will pay \$ more for the degree under the new tuition rate.

(Round to the nearest cent as needed.)

30. Suppose researchers conduct a study at a college. The following table indicates the results of the study. What percent of women smoke at the college?

	Men	Women
Smokers	1,217	550
Nonsmokers	1,084	1,016

%

(Round to the nearest whole number as needed.)

31. In 2005, 10.7 million desktop computers were sold in a particular country. This dropped to 8.9 million sold in 2010. What was the percent of decrease in the number of desktop computers sold?

The percent of decrease is %.

(Type a whole number or decimal rounded to the nearest tenth as needed.)

32. Interpret each percentage.

There is a 90% chance that an athlete using PEDs will receive a positive test result.
10% of male high school dropouts are in jail or detention centers.

Interpret the sentence "There is a 90% chance that an athlete using PEDs will receive a positive test result." Choose the correct answer below.

- ☐ A. 90 out of 100 athletes using PEDs tested for PED use will receive a positive test result.
- ☐ B. 9 out of 100 athletes using PEDs tested for PED use will receive a positive test result.
- ☐ C. 90 out of 100 athletes using PEDs tested for PED use will receive a negative test result.
- ☐ D. 10 out of 100 athletes using PEDs tested for PED use will receive a positive test result.

Interpret the sentence "10% of male high school dropouts are in jail or detention centers." Choose the correct answer below.

- ☐ A. 1 out of 100 male high school dropouts are in jail or detention centers.
- ☐ B. 9 out of 10 male high school dropouts are in jail or detention centers.
- ☐ C. 1 out of 10 male high school dropouts are in jail or detention centers.
- ☐ D. 10 out of 10 male high school dropouts are in jail or detention centers.

33. Determine if the following is an example of a false negative or an example of a false positive.

A woman has breast cancer. Her test indicates that she does not have breast cancer. This is an example of a _____.

Choose the correct answer below.

- ☐ false positive
- ☐ false negative

34. Calculate the population density for a country that had a population of 30,424 people living on 0.9 square mile. Round to the nearest person per square mile.

people per square mile

(Round to the nearest whole number as needed.)

35. In a certain region, about 28,000 people are needed to support a fire station. How many fire stations would you expect in a city of 1 million people?

A city of 1 million people would have approximately fire stations.

(Round to the nearest whole number as needed.)

36. Suppose there exists a planet with 4.8 billion inhabitants. The surface area of this planet is $417,213,148 \text{ km}^2$. Use this to answer 4) through 7) below.

4) What is the surface area of the planet in mi^2 ? Round to the nearest million square miles.

- ☐ A. 161,000,000 mi^2
☐ B. 106,000,000 mi^2
☐ C. 259,000,000 mi^2
☐ D. 77,500,000 mi^2

5) The surface area includes both land and water. Approximately 109 million square miles of the planet's surface area is water. Determine what percentage of the surface area is land.

% (Round to the nearest tenth as needed.)

6) Approximately $\frac{1}{3}$ of the land is uninhabitable, meaning people cannot live on it. How much land on the planet is inhabitable (can be lived on)? Round to the nearest million square miles.

- ☐ A. 52,000,000 mi^2
☐ B. 35,000,000 mi^2
☐ C. 17,000,000 mi^2
☐ D. 96,000,000 mi^2

7) Estimate the population density of the planet in people per square mile of inhabitable land.

The population density of the planet is about people per square mile.
(Round to the nearest whole number as needed.)

37. A microscope allows a scientist to see a circular region that is 1.27 millimeters in diameter. How much area, to the nearest square centimeter, can the scientist see?

The area of the circular region is approximately cm^2 .
(Do not round until the final answer. Then round to the nearest thousandth as needed.)

38. A rectangle has a length of 2.5 feet and a width of 6 inches. What is the area of the rectangle in square inches? What is the area of the rectangle in square feet?

What is the area of the rectangle in square inches?

The area of the rectangle is square inches.
(Simplify your answer.)

What is the area of the rectangle in square feet?

The area of the rectangle is square feet.
(Simplify your answer.)

39. A building contractor is building a backyard playground and wishes to put down rubber mulch to provide safety from falls. The contractor wishes to put the mulch in a pit in the shape of a rectangular solid 28 feet 3 inches long, 19 feet 1 inch wide, and 6 inches deep. Use this information to answer parts **a** and **b** below.

a) Calculate the volume of mulch the contractor will need, in cubic yards, adding 5% to allow for spillage, and round up to the nearest $\frac{1}{4}$ cubic yard. Select the correct answer below.

- ☐ A. 12 yd³
☐ B. 10.5 yd³
☐ C. 9 yd³
☐ D. 17.5 yd³

b) The contractor charges \$160 per cubic yard (in increments of $\frac{1}{4}$ -yard) plus a(n) \$60 surcharge for orders less than ten cubic yards. Find the total cost of the job.

The total cost of the job would be \$.
(Round to the nearest cent as needed.)

40. A sprinter ran the 100-meter dash in 10.83 seconds. What was the sprinter's speed in miles per hour?

The sprinter's speed was miles per hour.
(Round to the nearest tenth as needed.)

41. A particular hybrid vehicle gets 57 MPG for highway driving. The tank holds approximately 11.9 gallons of fuel. Typically the low fuel warning light comes on when approximately two gallons of fuel remain in the tank. Which of the following calculations can be used to find the distance that can be traveled after the fuel light comes on and before the car runs out of gasoline?

Choose the correct answer below.

- ☐ A. $\frac{11.9 \text{ gallons}}{1} \cdot \frac{57 \text{ miles}}{1 \text{ gallon}} = 678.3 \text{ miles}$
☐ B. $\frac{2 \text{ gallons}}{1} \cdot \frac{1 \text{ gallon}}{57 \text{ miles}} = \frac{2}{57} \text{ miles}$
☐ C. $\frac{1}{2 \text{ gallons}} \cdot \frac{57 \text{ miles}}{1 \text{ gallon}} = 28.5 \text{ miles}$
☐ D. $\frac{2 \text{ gallons}}{1} \cdot \frac{57 \text{ miles}}{1 \text{ gallon}} = 114 \text{ miles}$

42. In planning a Thanksgiving vacation, you want to rent a car for a week and travel from City A to City B. You want to return to City A via City C and two national parks. This trip covers approximately 1400 miles. You plan to return the car with a full tank of gasoline. You plan to rent a car that costs \$416.91 plus taxes and fees, totaling \$535.61. The car gets 33 mpg for highway driving. You must purchase gasoline, which costs approximately \$2.50 per gallon. Find the total cost of renting and driving the car for the trip.

The total cost will be \$.
(Round to the nearest cent.)

43. If a car gets 33 miles per gallon, how much does it cost to drive 330 miles when gasoline costs \$2.70 per gallon?

The cost is \$.
(Round to the nearest cent as needed.)

44. Maria is making a plant arrangement for 4 of her friends. Use the table to answer the question.

	A	B
1	Item	Cost
2	Flower Pot	\$4.00
3	Ivy	\$14.00
4	Ribbon	\$1.75
5	Card	\$1.25
6		

Which of the following formulas will determine the total cost for Maria to make 4 plant arrangements? There may be more than one answer. Select all that apply.

- ☐ A. $= 4*(B1 + B2 + B3 + B4 + B5)$
- ☐ B. $= B2 + B3 + B4 + B5$
- ☐ C. $= 4 * B2 + 4 * B3 + 4 * B4 + 4 * B5$
- ☐ D. $= 4*B2 + B3 + B4 + B5$
- ☐ E. $= 4*(B2 + B3 + B4 + B5)$

45. Suppose you get a loan of \$6,000 at an annual interest rate of 3.25%. Use the given information to write the formula for the total amount to be repaid in t years.

² Click the icon to review information regarding loan repayments.

The formula is $A =$.

(Use integers or decimals for any numbers in the expression. Do not include the \$ symbol in your answer.)

2: Loan repayments

Lenders such as banks, credit unions, and mortgage companies make loans. The person receiving the loan usually pays the loan off in small payments over a long period of time. The lender earns money by charging interest, which is based on a percentage of the amount that is borrowed. There are different types of interest. Short-term loans are often calculated using the formula for simple interest. The total amount repaid is based on the value of the original loan, called the principal, and the interest.

The formula for the total dollars needed to repay the loan, with interest, is found using the formula $A = P + P \cdot r \cdot t$ or $A = P(1 + r \cdot t)$ where A is the amount (total principal plus interest) required to repay the loan, P is the amount borrowed or the principal, r is the annual interest rate used as a decimal, and t is the time in years.

46. The Expected Family Contribution (EFC) Formula is used to determine if a college student is eligible for financial aid. One section of the form is shown below.

45	Cash, savings, and checking		
46	Net worth of investments If negative, enter zero	+	
47	Net worth of business and/or investment farm	+	
48	Net worth (sum of lines 45 through 47)		
49	Assessment rate	×	0.20
50	Student's Contribution from Assets	=	

Calculate the Student's Contribution from Assets given the following information.

Cash: \$550 Savings: \$3220 Checking: \$722 Investments: loss of \$2000 Business: \$0

Student's Contribution from Assets = \$

(Round to the nearest dollar as needed.)

47. If the Morgans can afford a monthly amortization payment of \$700, then the following formula can be used to calculate the amount P of their 15-year mortgage loan at an annual interest rate of 2.4% per year. Find the total amount of the mortgage loan that the Morgans can afford.

$$700 = 0.0066209 \cdot P$$

The Morgans can afford a \$ loan.
(Round to the nearest dollar as needed.)

48. BMI can be calculated with the following formula, where the weight is in pounds and the height is in inches.

$$\text{BMI} = \frac{\text{Weight}}{\text{Height}^2} \times 703$$

BMI is considered to be in the normal range if it is between 18.5 and 25. Use this information to answer parts a through d.

(a) Matthew is 5 feet, 9 inches tall. Create a BMI formula that applies to people who are his height. Do not evaluate the formula.

$$\text{BMI} = \frac{\text{Weight}}{\text{Height}^2} \times \text{Height}^2$$

b) Calculate Matthew's BMI if he weighs 163 pounds.

$$\text{BMI} = \text{Height}^2 \times \text{Weight} \quad (\text{Round to the nearest hundredth as needed.})$$

c) At 163 pounds, is Matthew's BMI considered to be in the normal range?

- ☐ A. Yes, the BMI is within the desired range.
☐ B. No, the BMI is less than 18.5. It is out of the desired range.
☐ C. No, the BMI is greater than 25. It is out of the desired range.

d) How does Matthew's BMI change if he gains 16 pounds?

His BMI will (1) by . (Round to the nearest hundredth as needed.)

- (1) ☐ increase
☐ decrease

49. Find the solution to the equation.

$$-8x = 84$$

The solution is $x =$. (Round to one decimal place as needed.)

50. Solve.

$$5x - 12 = -57$$

The solution is $x =$.
(Simplify your answer. Type an integer or a simplified fraction.)

51. The Widmark equation below gives the blood alcohol content, B , for a person in terms of the number of hours since they last drank, t , the number of drinks, N , and their weight, W . The letter g is a constant that equals 0.68 for men and 0.55 for women.

$$B = -0.015 \cdot t + \frac{2.84 \cdot N}{W \cdot g}$$

A female student drank four glasses of wine at a party. The student weighs 140 pounds. How long will it take before the student's BAC is 0.10?

$t =$ hours (Round to the nearest tenth as needed.)

52. A recipe for biscuits calls for a ratio of flour to fat to liquid of 7:1:3. To make enough biscuits for a family dinner, James decides he needs to use 8 cups of flour. How much fat and liquid should he use based on the recipe?

He should use cups of fat and cups of liquid.
(Simplify your answers. Type integers, fractions, or mixed numbers.)

53. Which of the following represent the same proportional relationship as $\frac{4}{x} = \frac{28}{84}$? There may be more than one correct answer.

Select all that apply.

☐ A. $\frac{x}{4} = \frac{28}{84}$

☐ B. $\frac{4}{28} = \frac{x}{84}$

☐ C. $\frac{28}{4} = \frac{84}{x}$

☐ D. $\frac{x}{28} = \frac{4}{84}$

☐ E. $\frac{x}{4} = \frac{84}{28}$

54. Solve the equation.

$$0.92y + 2.24 - 0.02y = 6.74$$

$y =$

55. Solve for t .

$$\frac{t}{0.12} = \frac{1.05}{0.42}$$

$t =$

(Type a whole number or a decimal.)

56. A TV screen with a width of 15 in has a height of $10\frac{1}{2}$ in. What is the ratio of width to height of the TV? Be sure to simplify your answer.

The ratio of width to height is : .
(Type whole numbers.)

57. A mathematical equation for the relationship between the cost per mile of driving a car and the price of gas is shown below.

C = Cost of driving the car in \$/mile
g = Price of gas in \$/gal
$$C = \frac{g}{23} + 0.147$$

Use the equation $C = \frac{g}{23} + 0.147$ to complete the two missing entries in the table.

Complete the two missing entries in the table.
(Type an integer or a decimal. Round to the nearest cent as needed.)

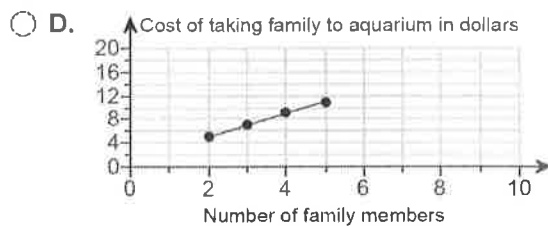
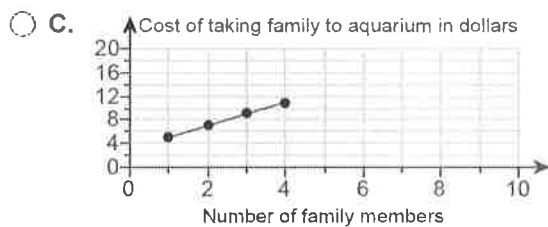
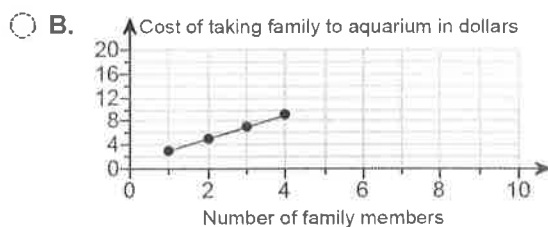
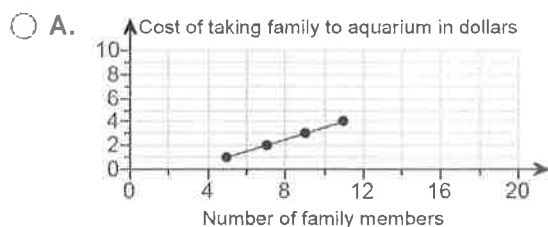
Price of Gas (\$/gal)	Cost of Driving Car (\$/mile)
2.00	0.23
2.50	0.26
3.00	0.28
3.50	0.30
4.00	<input type="text"/>
4.50	<input type="text"/>

58. Let C represent the price of taking a family to the aquarium and f represent the number of family members. Complete questions 1) through 3) below.

1) Use the equation $C = 2f + 3$ to complete the table.

Number of family members	Cost of taking family to the aquarium (in dollars)
1	5.00
2	7.00
3	
4	

2) Plot the points from the table on a graph and draw a line connecting the points. Choose the correct graph below.



3) Use the graph to estimate the cost of taking a family of five to the aquarium. Use the equation to check your estimate.

The cost is about \$.

59. Samuel plans to order flowers for his mother, to be delivered on her birthday. A bouquet of 8 roses will cost \$31, while a larger bouquet of 12 roses will cost \$39.

Answer parts A through C below.

A. If the relationship between the number of roses and the price is linear, what is the slope? Enter the slope below, and be sure to include units.

(1)
1 (2)

B. Based on that slope, how much of the price for the smaller bouquet is for the roses?

The roses cost \$.

C. What is the cost of delivery?

The cost of delivery is \$.

(1) ☐ rose(s) (2) ☐ dollar
☐ dollar(s) ☐ rose

60.

Use each graph to estimate the y-intercept and interpret its meaning.

A. Using the graph of the cost of cheeseburgers to the right, estimate the y-intercept.

The y-intercept is approximately .
(Round each coordinate to the nearest tenth as needed. Type an ordered pair.)

What does the y-coordinate of the y-intercept represent? Choose the best option below.

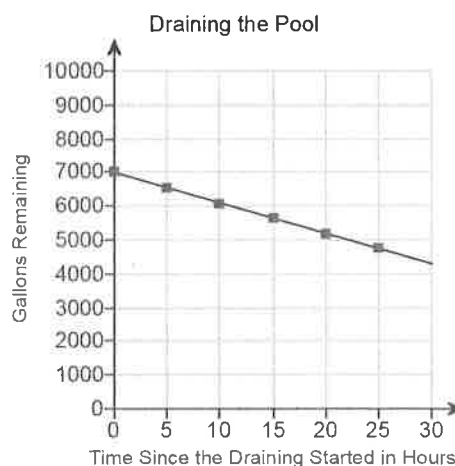
- ☐ A. It represents the cost of a cheeseburger with the maximum number of toppings.
- ☐ B. It represents the maximum number of possible toppings.
- ☐ C. It represents the cost of a cheeseburger with no additional toppings.
- ☐ D. It represents the number of toppings that are included in the price of the cheeseburger.

B. Using the graph of the draining of the pool to the right, estimate the y-intercept.

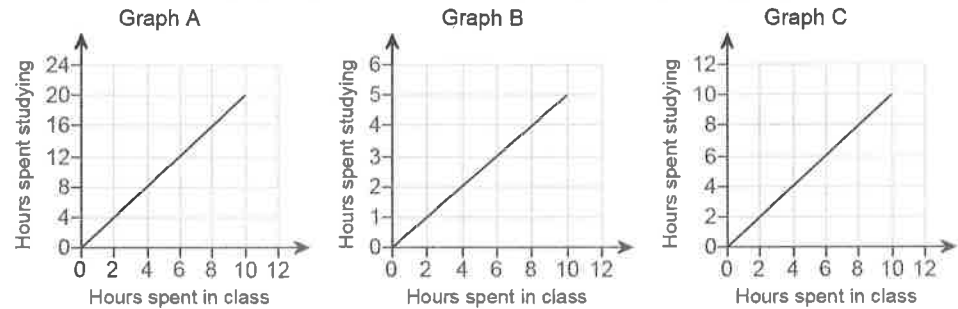
The y-intercept is approximately .
(Round each coordinate to the nearest thousand as needed. Type an ordered pair.)

What does the y-coordinate of the y-intercept represent? Choose the correct answer below.

- ☐ A. It represents the time it will take to completely drain the pool.
- ☐ B. It represents the amount of water in the pool before the draining begins.
- ☐ C. It represents the amount of water in the pool after it is completely drained.
- ☐ D. It represents the rate at which the water drains from the pool.



61. Refer to the three graphs given below. Complete parts a) through e).



a) Which of the graphs has a slope of 2?

- ☐ Graph C
- ☐ Graph A
- ☐ Graph B

b) Which graph shows a relationship of 1 hour studying for each hour in class?

- ☐ Graph B
- ☐ Graph A
- ☐ Graph C

c) Which graph matches this table?

Hours in class	1	4	7	9
Hours studying	2	8	14	18

- ☐ Graph C
- ☐ Graph A
- ☐ Graph B

d) What is the equation for Graph B? Use C for hours in class and s for hours studying.

(Type an equation. Use integers or fractions for any numbers in the equation.)

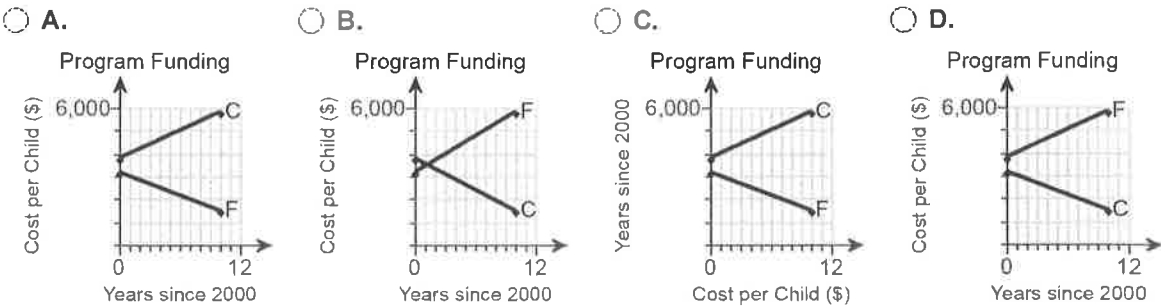
e) Which graph would contain the point (20,10) if it were extended?

- ☐ Graph B
- ☐ Graph C
- ☐ Graph A

62. A parents' group wants to show that government funding for afterschool programs in their school has decreased over the last decade while the cost of offering programs has increased. They have the data given below. Sketch a graph showing linear models of the two sets of data. Be sure to include a title, scales, and labels on the axes. Label each of the models on the graph.

	2000	2010
Government funding for afterschool programs (\$/child)	\$3,200	\$1,500
Cost of Services (\$/child)	\$3,800	\$5,800

Let C represent the Cost of Services and F represent government funding. Choose the correct answer below.



63. The value of investments in the stock market change daily. Suppose you buy a stock for \$1,000. It increases in value by 6.5% and then falls 6.5%. What is the new value?

The new value is \$.
(Round to the nearest cent as needed.)

64. The value of investments in the stock market change daily. Suppose you buy a stock for \$4,500. It decreases in value by 2% and then rises 4%. What is the new value?

The new value is \$.
(Round to the nearest cent as needed.)

65. Simplify the following expressions by adding or subtracting like terms, or indicate that the expression cannot be simplified. Complete parts a) through e) below.

a) $3x + 3.2x - 1x$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A. The simplified form of $3x + 3.2x - 1x$ is _____.
(Use integers or decimals for any numbers in the expression. Do not factor.)
- ☐ B. The expression cannot be simplified.

b) $3a - 5b + 3b$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A. The simplified form of $3a - 5b + 3b$ is _____.
(Use integers or decimals for any numbers in the expression. Do not factor.)
- ☐ B. The expression cannot be simplified.

c) $3a + 5ab$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A. The simplified form of $3a + 5ab$ is _____.
(Use integers or decimals for any numbers in the expression. Do not factor.)
- ☐ B. The expression cannot be simplified.

d) $y + 0.4y$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A. The simplified form of $y + 0.4y$ is _____.
(Use integers or decimals for any numbers in the expression. Do not factor.)
- ☐ B. The expression cannot be simplified.

e) $4.5p - q + 1.5p + 2.9q$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A. The simplified form of $4.5p - q + 1.5p + 2.9q$ is _____.
(Use integers or decimals for any numbers in the expression. Do not factor.)
- ☐ B. The expression cannot be simplified.

66. The summer before Aaron's senior year in high school, he made \$1,500 mowing lawns. His parents promise to pay him 8% simple interest, as long as he doesn't spend any of the money. How much will he have if he saves the money for 1 year? For 4 years?

Aaron will have \$ if he saves the money for 1 year.

Aaron will have \$ if he saves the money for 4 years.

67. A local investment firm has two accounts, one that earns 4% annual interest and another that is somewhat riskier but has been earning 8% annual interest. Assume annual compounding (and the accounts will continue to perform at these same rates) and predict the amount that will be earned in each of the situations below. Complete parts a) through d) below.
- a) \$1,400 is invested in the account that has been earning 4% annual interest for 5 years. Compute the balance in the account.
- The balance will be approximately \$.
- (Round to the nearest cent as needed.)
- b) \$1,400 is invested in the account that has been earning 8% annual interest for 5 years. Compute the balance in the account.
- The balance will be approximately \$.
- (Round to the nearest cent as needed.)
- c) \$700 is invested for 5 years in each account (i.e., one account earning 4% interest and another account earning 8% interest). Compute the total balance of the accounts.
- The total balance will be approximately \$.
- (Round to the nearest cent as needed.)
- d) Which option should one invest in? Why? Choose one of the options below.
- A. I would choose to invest in the account with the higher interest rate because it yields the most interest.
- B. I would choose to invest in the account with the lower interest rate because it is very likely to yield interest.
- C. I would evenly split the amount into both accounts; this has less risk than investing everything in the higher interest rate account and will yield more interest than investing everything in the lower interest rate account.
- D. I would choose to invest in the account with the higher interest rate in the hopes that I will earn the same amount of interest as the lower interest rate account, but with a smaller deposit.
- (Type A, B, C, or D.)

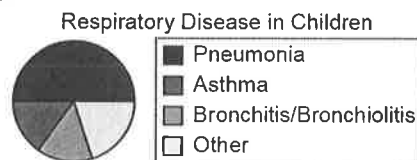
68. In one year, approximately 25% of the 2.6 million hospitalizations for children aged < 15 years were for respiratory diseases, the largest category of hospitalization diagnoses in this age group. Of these, 34% were for pneumonia, 25% for asthma, 25% for acute bronchitis and bronchiolitis, and 16% for other respiratory diseases, including croup and chronic disease of tonsils and adenoids. Complete parts a and b below.

- a) Based on this information, how many children were hospitalized for pneumonia?

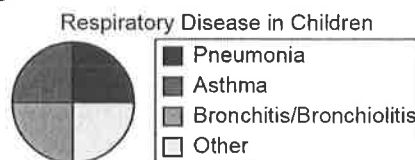
About children were hospitalized for pneumonia.

- b) Find a pie chart that accurately represents the data.

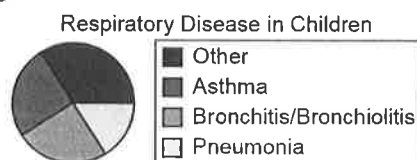
☐ A.



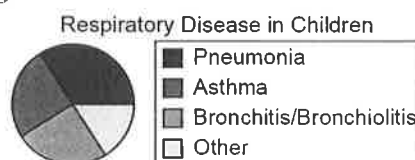
☐ B.



☐ C.



☐ D.

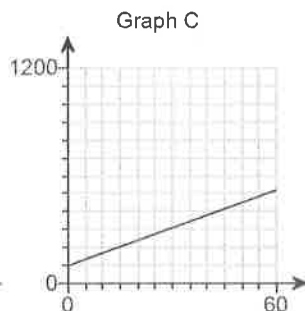
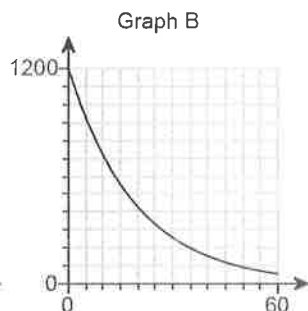
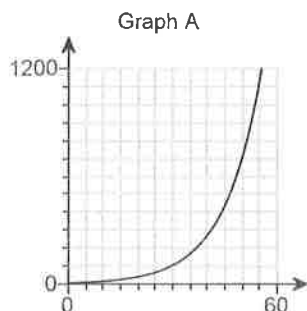


69. Certain drugs are eliminated from the bloodstream at an exponential rate (for example, 10% of a drug eliminates from the blood per hour). Write an exponential model for the following situation. The drug dosage is 300 mg. The drug is eliminated at a rate of 5.8% per hour. Use D as the amount of the drug in milligrams and t as the time in hours.

$D =$

(Type an expression using t as the variable.)

70. Write the title of each graph next to the equation that best matches it.



(1) $y = 1,200(0.95)^x$

(2) $y = 100 + 7x$

(3) $y = 6(1.1)^x$

- | | | |
|-----------------------------------|-----------------------------------|-----------------------------------|
| (1) <input type="radio"/> Graph C | (2) <input type="radio"/> Graph A | (3) <input type="radio"/> Graph B |
| <input type="radio"/> Graph A | <input type="radio"/> Graph B | <input type="radio"/> Graph A |
| <input type="radio"/> Graph B | <input type="radio"/> Graph C | <input type="radio"/> Graph C |

71. You need a payday loan for \$250.00 and the clerk at the payday loan store tells you that you must pay back \$300.00 in 45 days. What is the percentage interest on the payday loan?

The percentage interest is %.

(Simplify your answer.)

72. Suppose Billy had a zero balance on his credit card but then used the card to charge \$2,200 of his tuition. His annual interest rate is 30%. Complete parts a) through d) below.

a) What percentage will he be charged each month?

He will be charged % every month.

(Type an integer or a decimal.)

b) What will be the interest charge for the first month?

He will be charged \$ in interest for the first month.

(Round to the nearest cent as needed.)

c) What is his balance after making a \$100 payment?

His balance after the \$100 payment is \$.

(Round to the nearest cent as needed.)

d) What is the interest charge for the second month?

He will be charged \$ in interest for the second month.

(Round to the nearest cent as needed.)

73. Suppose Evan had a zero balance on his credit card but then used the card to charge \$800 for textbooks and supplies. His annual interest rate is 24%. Use one computation to determine the interest charged for the first month.

He will be charged \$ in interest for the first month.

(Round to the nearest cent as needed.)

74. Mary and Mark both have \$300 of debt on their credit cards. Each month, they are charged a 22% annual interest on their cards' outstanding balances. So when Mary and Mark make payments, part of each payment goes to paying interest, and part goes to the principal. Mary and Mark will not charge any more purchases until they have completely paid off their credit card balances. Assume the interest is compounded monthly. Complete questions 1) through 4).

1a) Determine the interest charged for 1 month for Mary and Mark.

The interest charged for 1 month for Mary and Mark will be \$ each.

(Round to the nearest cent as needed.)

1b) The cards each require a minimum monthly payment of 4% of the balance owed, or \$10, whichever is higher. Mary will pay the minimum but Mark will pay an extra \$15 per month in addition to the minimum payment.

Mary pays the minimum payment of \$ and since the interest charge is \$, the amount that will go toward paying the balance is \$. This will make the new balance \$. Mark pays the minimum plus \$15, so his payment would be \$ and since the interest charge is \$, the amount that will go toward paying the balance is \$. This will make the new balance \$.

(Round to the nearest cent as needed.)

2) Determine each person's payment, interest, amount paid toward the balance, and new balance, for the second month. Assume Mark decides to pay the additional \$15 in the second month.

Mary pays the minimum payment of \$. The interest charge is \$ and the amount that will go toward paying the balance is \$. This will make the new balance \$. Mark pays the minimum plus \$15, so his payment would be \$. The interest charge is \$, the amount that will go toward paying the balance is \$. This will make the new balance \$.

(Round to the nearest cent as needed.)

3) Develop a plan for organizing your work and determine what each person's balance will be after 6 months of making payments. Assume Mark decides to pay the additional \$15 each month.

Mary's balance after 6 months is \$. Mark's balance after 6 months is \$.

(Round to the nearest cent as needed.)

4) What was each person's total interest paid for the 6-month period?

Mary paid a total of \$ in interest after the six months. Mark paid a total of \$ in interest after the six months.

(Round to the nearest cent as needed.)

1. 42

368,650

2. 12,000,000

200,000

3,333

139

0.38

3. (1) Millions

10^6

10^5

10^4

10^3

(2) Hundreds

(3) Hundredths

10^{-2}

(4) Thousandths

10^{-3}

(5) Ten thousandths

10^{-4}

10^{-5}

A. Ones and tenths

4. 2018

2036

36000

D. Between 90 and 108 years

5. C. About 5.88×10^7 adults were obese.

6. B. 17% of adults in this country were obese in 1995.

B. 2.8×10^7

A. The number of adults who were obese grew by about 27.6 million between 1995 and 2010.

B. 3.98×10^7

A. 28%

7. (1) A

(2) A

800,000

600,000

1.33

A. There were approximately 0.75 vehicles per person in State B in that year (less than 1 vehicle per person)., C. There were approximately 1.33 people per vehicle in State B in that year (slightly over 1 person per vehicle).

8. D. Multiply \$50 by 0.25.

9. 17

18

Gillway Community College

Montessa Valley Community College

No

A. Just over 16% of Gillway students earned honors., B. More than 15% of Gillway students earned honors., E. About 16% of Gillway students earned honors.

10. B. less than 1%, C. 0.5%

11. A.

The statement is false. It is not possible to tell if the number of non-Hispanics is expected to decline based on percentages alone.

A. The actual numbers in each group for the current and projected populations are missing.

D. The data could also be represented using a table.

12. 2.143

214.3

13. 25

14. 100

15. D. Not enough information to say

16. 11.1

17. 160

18. A. The two peaks could be two sets of students, boys and girls., C.

The two peaks could be caused by age differences among the students., D.

The two peaks could be two sets of students, those who are going through puberty and those who are not.

19. 18

16

A. The mode(s) is/are . (Use a comma to separate answers as needed.)

20. C.

The median is the most appropriate choice because the median is not affected by an offensive lineman whose weight is much larger or smaller than the others. A very large or small offensive lineman could distort the mean.

The mode is inappropriate because it is unlikely multiple offensive linemen will be the same weight.

21. 43,000

22. 150

23. (1) are equal.

(2) 1.174×10^{12}

(3) 1.174×10^{12} .

(4) 1,174,000,000,000

(5) 1,174,000,000,000.

24. D.

Businesses and employees pay Social Security and Medicare taxes. The money comes from the taxpayers' paychecks. People who are self-employed must pay a self-employment tax.

25. 16,977.85

26. (1) \$50

27. 29

28. 6.3

29. 587.23

4,697.84

30. 35

31. 16.8

32. A. 90 out of 100 athletes using PEDs tested for PED use will receive a positive test result.

C. 1 out of 10 male high school dropouts are in jail or detention centers.

33. false negative

34. 33,804

35. 36

36. A. 161,000,000 mi²

32.3

B. 35,000,000 mi²

137

37. 0.013

38. 180

1.25

39. B. 10.5 yd³

1680.00

40. 20.6

41. D. $\frac{2 \text{ gallons}}{1} \cdot \frac{57 \text{ miles}}{1 \text{ gallon}} = 114 \text{ miles}$

42. 641.67

43. 27.00

44. C. $= 4 * B2 + 4 * B3 + 4 * B4 + 4 * B5$, E. $= 4*(B2 + B3 + B4 + B5)$

45. $6,000(1 + 0.0325t)$

46. 898

47. 105,726

48. 4761

703

24.07

A. Yes, the BMI is within the desired range.

(1) increase

2.36

49. - 10.5

50. - 9

51. 3.2

52. $1\frac{1}{7}$

$3\frac{3}{7}$

53. B. $\frac{4}{28} = \frac{x}{84}$, C. $\frac{28}{4} = \frac{84}{x}$, E. $\frac{x}{4} = \frac{84}{28}$

54. 5

55. 0.3

56. 10

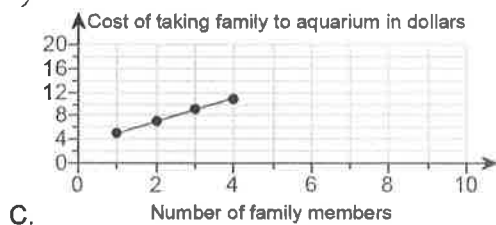
7

57. 0.32

0.34

58. 9.00

11.00



13.00

59. 2

(1) dollar(s)

(2) rose

16

15

60. (0,4.5)

C. It represents the cost of a cheeseburger with no additional toppings.

(0,7000)

B. It represents the amount of water in the pool before the draining begins.

61. Graph A

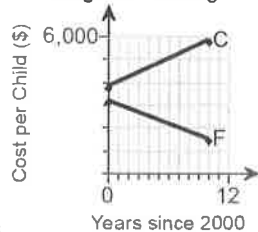
Graph C

Graph A

$$s = \frac{1}{2}C$$

Graph B

62. Program Funding



A.

63. 995.78

64. 4,586.40

65. A. The simplified form of $3x + 3.2x - 1x$ is **5.2x**.

(Use integers or decimals for any numbers in the expression. Do not factor.)

A. The simplified form of $3a - 5b + 3b$ is **3a - 2b**.

(Use integers or decimals for any numbers in the expression. Do not factor.)

B. The expression cannot be simplified.

A. The simplified form of $y + 0.4y$ is **1.4y**.

(Use integers or decimals for any numbers in the expression. Do not factor.)

A. The simplified form of $4.5p - q + 1.5p + 2.9q$ is **6p + 1.9q**.

(Use integers or decimals for any numbers in the expression. Do not factor.)

66. 1,620

1,980

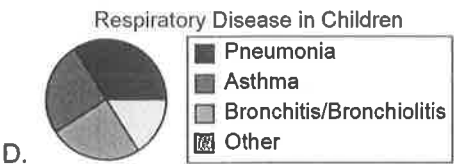
67. 1,703.31

2,057.06

1,880.19

Answers may vary

68. 221,000



69. $300(0.942)^t$

70. (1) Graph B
(2) Graph C
(3) Graph A

71. 20

72. 2.5
55.00
2,155.00
53.88

73. 16.00

74. 5.50

12.00

5.50

6.50

293.50

27.00

5.50

21.50

278.50

11.74

5.38

6.36

287.14

26.14

5.11

21.03

257.47

263.05

173.77

31.26

27.21
