P1)

A store is offering a 30% discount on coats. The original price of a coat is $80.00.

Sam said the coat will cost $50.00 after the discount. Is Sam correct? Explain why or why not.

P2)

Sharon ordered a $30.00 meal. What is the total cost of Sharon's meal including a 20% tip?

a) $30.20

b) $32.00

c) $36.00

d) $50.00

Explain your choice.

P3)

John has $125.00 to buy sneakers. Is this enough money to buy sneakers that cost $115.00 plus tax of 10%?

Show your work.

P4)

On Monday Beth rode her bike an average speed of 15 miles per hour.
Beth rode 20% faster on Tuesday than she did on Monday.

What was Beth's average speed on Tuesday? Show your work.

P(M): 5

P5)

Mary borrowed $300.00 for one year at a 5% interest rate.

Bill said that Mary will have to pay back $305.00 to the bank.

Is Bill correct?

Explain why or why not?

5

P(M): 6

P6)

Tom bought a toy with an original price of $4.03 at a 30% discount.

Approximately how much money did Tom pay for the toy?

Show your work.

P7)

George is buying dinner for $46.00. How much money should George pay if he wants to include a 15% tip?

a) $46.15

b) $47.50

c) $52.90

d) $61.00

Explain your choice.

P8)

Sarah and Jane are shopping in the mall and noticed a store that is having a 25% off sale. Jane says that means that all prices in the store are reduced by $0.25.

Is Jane's thinking correct? Why or why not?

P9)

A) A CD has a price of $15.00. How much will it cost to buy the CD if the sales tax is 10%? Show your work.

B) A CD has a price of $15.00. How much will it cost to buy the CD if the sales tax rate is 6%? Show your work.

P10)

A) A toy has a price of $10.00. How much will it cost to buy the toy if the sales tax rate is 5%? Show your work.

B) A toy has a price of $13.40. How much will it cost to buy the toy if the sales tax rate is 5%? Show your work.

P11)

Andrew is buying a toy car with a price of $5.95. The store gives Andrew a discount of 25%. About how much will it cost to buy the toy car?

Show your work.

P12)

A) Rachel is buying candy in a store that is having a 20% off sale. The original price was $3.25. What is the sale price of the candy? Show your work.

B) Julia is buying candy in a store that is having a 20% off sale. The original price was $4.00. What is the sale price of the candy? Show your work.

P13)

In 1990 the population of Maple Grove was 40,000 people. In the year 2000 the population of Maple Grove was 50,000.

Sara says that the population increased by 10% from 1990 to 2000.

Mark says that the population increased by 20% from1990 to 2000.

Ralph said that the population increased by 25% from 1990 to 2000.

Who is correct? Explain your answer.

Percent Problems
           Student ID:_____
           Date:_____

P14)

Ralph has a picture of his dog.
Ralph enlarged the picture by 20%.

He then shrunk the enlarged picture by 20%.

Did Ralph end up with a picture the same size as the original picture of his dog?

Explain why or why not.

P15)

In July Jamie saw a backpack that he liked in a sporting goods store. In August Jamie found that the price of the backpack had increased by 10%.

In September all backpacks were on sale for 10% off.
Jamie thought that the September price would be the same as the July price.
Was Jamie correct?

Explain your answer.

P16)

Abigail is buying a doll that has a price of $7.00. The store gives her a 45% discount.

Suzie told Abigail that the doll will cost more than $3.50.
Darcy says that the doll will cost less than $3.50.

Who is right? Explain your reasoning.

P17)

A store is having a 25% off sale. The original price of a coat is $80.00. To find the sale price of the coat:

Sam found $\frac{3}{4}$ of $80.00.

Marge found 75% of $80.00.

Explain why both Sam and Marge are correct.

P18)

A store is having a 25% off sale. The original price of a coat is $80.00. To find the sale price of the coat:

Sam multiplied $80.00 by 0.75.

Marge multiplied $80.00 by 0.25 and then subtracted that answer from $80.00.

Explain why both Sam and Marge are correct.

P19)

Trevor ordered the following numbers from smallest to largest. Is Trevor correct? Why or why not?

<u>**Trevor's Order**</u>
.8   9%   .55

Percent Problems

20

Percent Problems   **Student ID:** _____
                                        Date: _____

P20)

The cost of a portable CD player today is $80.00. The cost of this CD player in the year 2000 was 200% of today's price. What was the cost of the portable CD player in the year 2000?

Bob multiplied $80.00 times 200 to determine the cost of the CD player.

Beth doubled $80.00 to determine the cost of the CD player.

Brian divided $80.00 by 2 to determine the cost of the CD player.

Who is correct? Explain your answer.

P21)

Ted ran 2 miles at the track. Leslie ran 4 times the distance that Ted ran.

Which statement below is true?

A) Leslie's running distance was 200% of Ted's running distance.
B) Leslie's running distance was 400% of Ted's running distance.
C) Ted's running distance was 20% of Leslie's running distance.
D) Ted's running distance was 40% of Leslie's running distance.

Explain your choice.

P22)

Ted ran 3 miles at the track. Leslie ran 6 miles at the track.

Which statement below is true?

A) Ted's running distance was 20% of Leslie's running distance.
B) Ted's running distance was 40% of Leslie's running distance.
C) Leslie's running distance was 200% of Ted's running distance.
D) Leslie's running distance was 400% of Ted's running distance.

Explain your choice.

P23)

Sam ate 50 % of a pizza. Kim ate 70 % of another pizza.

Explain how it could be possible that Sam ate more pizza even though Kim ate a greater percentage of a pizza.

P24)

A headline in a local newspaper read:

> Study shows more students walk to school in
>   Westport than walk to school in Danville

Here is the data provided in the article.

	Percent of Students who Walk to School
Westport	70%
Danville	50%

Explain how it *could* be possible that a greater *number* of students walk to school in Danville, even though a greater *percentage* of students walk to school in Westport.

Provide specific examples to support your explanation.

P25)

The table below shows the percentage of students who walk to school in Westport and in Danville.

	Percent of Students who Walk to School
Westport	70%
Danville	50%

If 100 students go to school in Westport and 200 students go to school in Danville, in which school do more students walk to school?
     Show your work.

P26)

The table below shows the percentage of students who walk to school in Westport and in Danville.

Schools	Percent of Students who Walk to School	Total Number of Students in the School
Westport	70%	?
Danville	50%	?

Using the data in the table above, provide a situation in which the same number of students walks to school in Westport and Danville. Explain your reasoning.

P27)

In a recent poll of 80 shoppers, 30% of the shoppers stated that they would like stores to stay open later on Friday nights.

Julie said this means that 50 of the shoppers polled would like stores to stay open later on Friday nights. Is she correct?

Show your work.

P28)

There are 80 students in the ninth grade at Union High School. Twenty-five percent of those students play a fall sport.

Jason said that 25 of the students in the ninth grade at Union High School play a fall sport. Is he correct? Why or why not?

P29)

Mrs. Goodhall's eighth grade class sent a survey to 50 local businesses.
After one week, 15 businesses had returned the survey.

Jon estimated that *more than* 25% of the local businesses had replied after
one week.

Mark estimated that *less than* 25% of the local businesses had replied after
one week.

Who is correct? Explain your thinking.

P30)

In a school poll at Riverside Middle School 75% of seventh grade students reported that they play a sport. If 36 students reported that they play a sport, how many students are in the seventh grade?

Show your work.

P31)

In a class poll 60% of Mrs. Goodhall's class reported that they play a sport. How many students are in Mrs. Goodhall's class if 30 students reported that they play a sport?

Show your work.

Percent Problems

Student ID:

Date:

P32)

Suppose that 19% of people in the U.S. have a membership to a gym. About how many people would have a membership to a gym in a town with a population of 750?

a. 20

b. 75

c. 150

d. 325

Explain your choice.

P33)

The eighth grade class at Merrywood Middle School surveys the students every year.

Of the 1100 middle school students surveyed this year, 83% reported owning at least two pairs of jeans. About how many students at Merrywood Middle School own at least two pairs of jeans?

Show your work.

P34)

Last year 650 students at Diamond High School reported having a pet. This year the number of Diamond High School students that reported having a pet is about 110% of last year's number.

What statement below is true?

a. The number of Diamond High School students that reported having a pet this year is *the same as* the number of Diamond High School students that reported having a pet last year.

b. 110 Diamond High School students reported having a pet this year.

c. About 710 Diamond High School students reported having a pet this year.

d. 110 fewer Diamond High School students reported having a pet this year than last year.

Explain your choice.

P35)

Last year 400 students at Rocky High School reported taking an art class. This year the number of students that reported taking an art class is *98%* of the number of students that reported taking an art class last year.
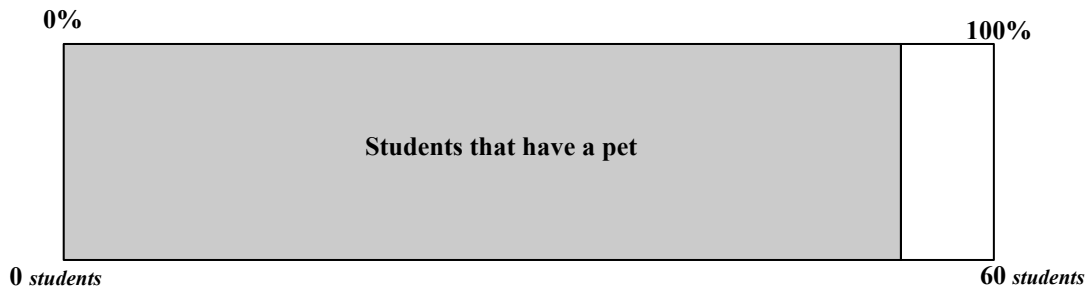
What statement below is true?

a. 498 students at Rocky High School reported taking an art class this year.

b. The number of students at Rocky High School that reported taking an art class this year is almost double the number that reported taking an art class last year.

c. 98 students at Rocky High School reported taking an art class this year.

d. The number of students at Rocky High School that reported taking an art class this year is about the same as the number that reported taking an art class last year.

Show your work and explain your choice.

P36)

There are 83 students at Green Meadow School. About 30% of the students stated that pizza is their favorite food. The model below shows this information.

0%   30%   100%

| *Favorite food is pizza* | |

0 *students*   83 *students*

Jen said *about 35 students* stated that pizza is their favorite food.

William said *about 25 students* stated that pizza is their favorite food.

Who is correct? Explain your reasoning.

P37)

Christopher surveyed the 60 students at Mount Holly Middle School to find the number of students that have a pet. He drew the model below to show his findings.

0%   **100%**

Students that have a pet

0 *students*   **60** *students*
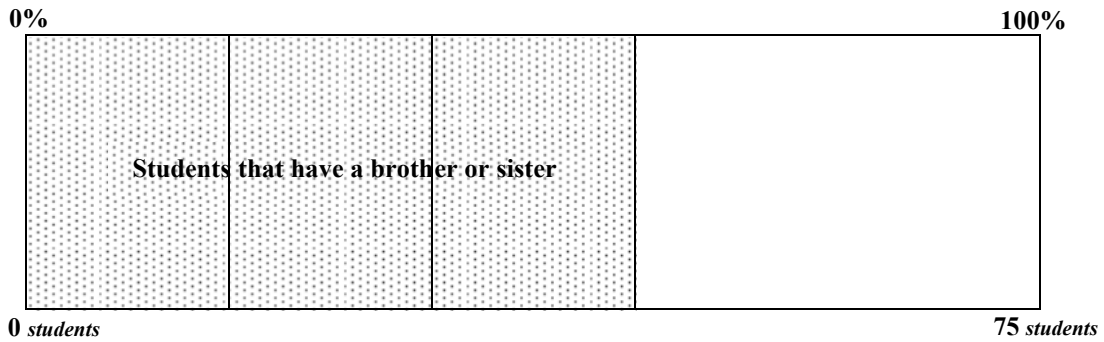
      A) Use Christopher's model to estimate the *percentage of students* that have a pet. Show your work.

      B) Use Christopher's model to estimate the *number of students* that have a pet. Show your work.

P38)

Judy surveyed the 75 students at her middle school to find the number of students that have a brother or sister. She drew the model below to show her findings.

0%   **100%**

Students that have a brother or sister

0 *students*   **75** *students*

A) Use Judy's model to estimate the *percent of students* that have a brother or sister. Show your work.

B) Use the model to estimate the *number of students* that have a brother or sister. Show your work.

P39)

A survey found that 9.75 % of the 308 teenagers surveyed owned skateboards.

About how many teenagers from this survey own skateboards?

A) 300

B) 270

C) 30

D) 93

Explain your choice.

P40)

A survey of 10,000 residents of a large city found that 0.5% of the residents walk to work every day.

Erin says to figure out how many people this represents she would multiply 10,000 times 0.5.

Sandy says to figure out how many people this represents she would find 1% and divide that value by 2.

Who is right? Explain why.

P41)

A survey of 10,000 residents of a large city found that 0.5% of the residents own a pet lizard.

How many people in this city own a lizard?

Show your work.

P42)

A survey of 800 students at Whiting High School found that *0.75%* of the students had visited Europe.

Mike said, "This means that 3/4 of the class has been to Europe. Wow! that's 600 people!"

Is Mike correct? Why or why not?

P43)

A store is offering a 10% discount on t-shirts. The original price of a t-shirt is $9.99.

What is the cost the shirt after the discount? Show your work.

P44)

The ratio of cows to pigs on a farm is 5:3. If there are 12 pigs on the farm, what percent of the animals are cows?

Explain your reasoning.

P45)

A candy bar is 6 inches long. The bar is split into two pieces. One piece is 40% of the whole bar.

What is the length in inches for <u>each </u>piece of the candy bar.

Show your work.

Percent Problems

Student ID: _____

Date: _____