

Dear Parents,

As the summer dawns upon us, we have the time to reflect on the year that was and prepare for the year to come. One of the effects of the summer is the diminished math skills. In an attempt to overcome the obvious, we are assigning math work over the summer months to curb the deterioration of these skills. Math is a subject that is scaffolded- the topics repeat from year to year albeit with a little bit more of a challenge. We feel that these sheets will help our students as they begin the new year, with the new challenges.

The summer work is divided into 20-25 sections based on the New York State Standards of Mathematics. There are approximately three to five questions per topic. It is our expectation that all students entering 7th and 8th grade complete all the problems before the school year. Ideally, each student should do two or three topics a week. In addition to the regular worksheets, students who were in 7th grade high math and/or wish to take math 9 –integrated algebra regents in 8th grade, are strongly encouraged to complete the “7th Grade Advanced Worksheet.” Should your child struggle with any of the material, there are many websites that your child can go to, both videos and extra worksheets, for assistance. One website in particular we have found helpful is [khanacademy.org](https://www.khanacademy.org).

It is our hope and anticipation that our students reach higher levels in mathematical ability and mathematical thinking. It is our goal to have students reach their full capabilities as learners and as bnei and bnos Torah.

Please feel free to contact us over the next few weeks to discuss your child’s math placement. We are available, as well, to discuss strategies to ensure your child enters school next year well prepared.

Have a great summer and hatzlacha rabba!

Rabbi Jeremy Feder

Director of Mathematics

Math Summer Review for Grade 6

NUMBER SENSE

Strand 1 - Place Value

- 1) Sylvia works at a bakery. On Monday, she baked 388 cookies. On Tuesday, Sylvia baked 200 LESS cookies than on Monday. How many cookies did Sylvia bake on Tuesday?
 - a. 178
 - b. 288
 - c. 188
 - d. 88

- 2) Which of these numerals is equivalent to $5000+400+2$?
 - a. 5420
 - b. 5402
 - c. 5,000,400,002
 - d. 5,400,002

- 3) Which means the same as 7500?
 - a. 75 hundreds
 - b. 75 ones
 - c. 75 tens
 - d. 75 hundreds

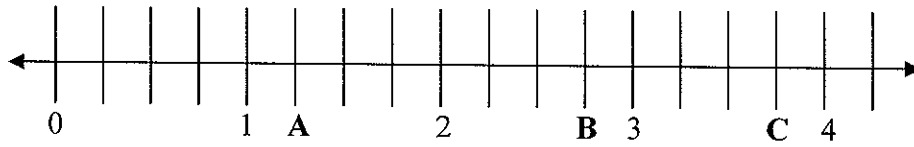
- 4) Which sum has the value of 524?
 - a. 5 tens + 24 ones
 - b. 5 hundreds + 24 tens
 - c. 5 hundreds + 2 tens + 4 ones
 - d. 4 hundreds + 24 tens

- 5) Which sum has the value of 8943?
 - a. 8 thousands + 9 hundreds + 43 tens
 - b. 8 thousands + 94 tens + 3 ones
 - c. 7 thousands + 9 hundreds + 43 tens
 - d. 7 thousands + 19 hundreds + 43 tens

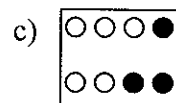
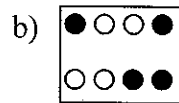
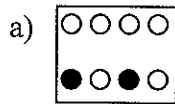
- 6) In which number does 5 have the least value?
 - a. 5346
 - b. 582
 - c. 8532
 - d. 7852

Strand 2 – Pictorial Representation of Numbers

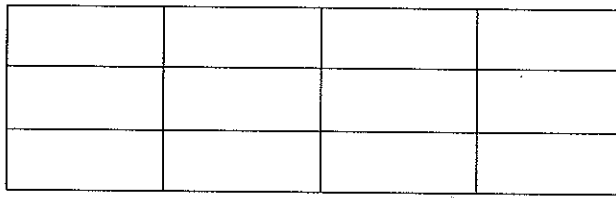
1) Which letter indicates $2\frac{3}{4}$ on the number line?



2) Which of the following shows $\frac{3}{8}$?

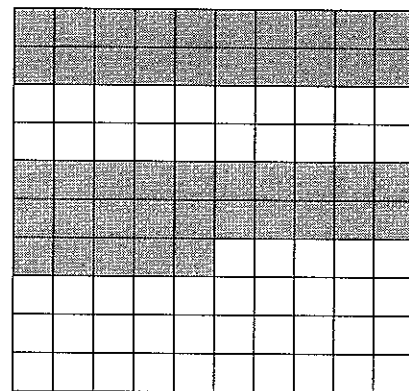
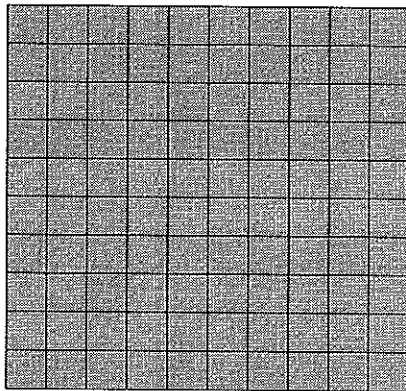


3) Shade $\frac{3}{4}$ of the rectangle.

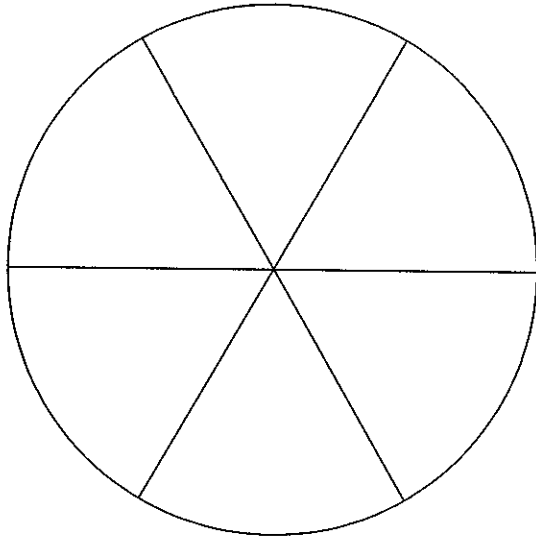


4) What decimal number is represented by the shaded part?

= 0.01



- 5) Shade $\frac{2}{3}$ of the following circle.



Strand 3 – Equivalent Fractions, Decimals and Percents

- 1) Sarah competed in 9 out of 12 gymnastics meets. Which of the following is another way to describe this?
- Sarah competed in $\frac{1}{2}$ of the meets.
 - Sarah competed in $\frac{3}{4}$ of the meets.
 - Sarah competed in $\frac{2}{3}$ of the meets.
 - Sarah competed in $\frac{1}{4}$ of the meets.

- 2) Which improper fraction is equivalent to $2\frac{3}{4}$?
- $\frac{5}{4}$
 - $\frac{14}{4}$
 - $\frac{11}{4}$
 - $\frac{9}{4}$

- 3) Barry baked 10 cookies of different shapes. What decimal number represents the number of heart shaped cookies?



- 3
- 3.3
- 0.3
- 0.7

Strand 4 - Order, Magnitude and Rounding of Numbers

- 1) Amanda collected between 4600 and 5800 pounds of newspaper for recycling. Which could be the amount collected?
- 5120
 - 3960
 - 4410
 - 5970
- 2) Adams School is having a food drive. John made a chart of the weight of food collected by each class in the 6th grade.

Pounds of Food Collected

Class	Pounds
Jones	455
White	545
Knight	445
Adams	350
Jackson	235

- Which list shows the classes arranged from the least to the greatest number of pounds collected?
- Adams, Jackson, Knight, White, Jones
 - Jackson, Adams, Knight, Jones, White
 - White, Jones, Knight, Adams, Jackson
 - Jackson, Adams, Knight, White, Jones
- 3) Which of the following is the tallest height in feet?
- $4\frac{1}{2}$ ft
 - $4\frac{3}{4}$ ft
 - $4\frac{7}{8}$ ft
 - $4\frac{5}{8}$ ft
- 4) 2,500 is between what two numbers?
- 2000 and 3000
 - 3000 and 4000
 - 4000 and 5000
 - 200 and 300

- 5) Alex is $10\frac{3}{4}$ years old. Which BEST describes his age?
- A little more than 10 years old.
 - A little less than 10 years old.
 - A little more than 11 years old.
 - A little less than 11 years old.
- 6) The town of Springfield has 6875 cars. Round this number to the nearest thousand.
- 7) There are 8951 people at the game. Round this to the nearest thousand.
- 8) Jane buys 8.6 pounds of cat food. Round this weight to the nearest pound.
- 9) On the number line below, mark the position of 58.
Write 58 below your mark.



OPERATIONS

Strand 5 - Models for Operations

- 1) James packed 96 books in twelve boxes. He packed equal number of books in each box. Which operation can be used to find the number of boxes James used?
- Subtract 12 from 96
 - Divide 96 by 12
 - Multiply 96 by 12
 - Add 96 and 12
- 2) There are 10 classes of sixth graders with 22 students in each class. Write a number sentence to show how you would solve this problem.

- 3) Write a story problem that can be solved using the number sentence $8 \times 4 =$

- 4) On the lines below write a story problem that can be solved by using the number sentence $9 \times 8 = \square$

Strand 6 - Basic Facts

- 1) $72 \div 9 =$
a. 9
b. 6
c. 7
d. 8

- 2) $7 \times 6 =$
a. 36
b. 49
c. 42
d. 48

- 3) $7 \times 8 =$ _____

- 4) $24 \div 6 =$

Strand 7 - Computation with Whole Numbers and Decimals

- 1)
$$\begin{array}{r} 73 \\ +38 \\ \hline \end{array}$$

2) Solve: $\$2.14 + \$0.80 + \$12.03 =$

3) Solve: $\$32.38 - \$4.35 =$

4) Multiply $\$20.00 \times 10$

- a. $\$20.00$
- b. $\$2.00$
- c. $\$2000.00$
- d. $\$200.00$

5) Solve this problem.
 $363 \times 6 =$

Strand 8 - Computation with Fractions

1) $\frac{5}{8} - \frac{3}{8} =$

2) $\frac{3}{6} + \frac{2}{6} =$

3) $7\frac{2}{3} + 5\frac{1}{3}$

4) $4\frac{1}{2} - 2$

5) $\frac{7}{8} - \frac{4}{8} =$

Strand 9 - Solve Word Problems

1) One dozen donuts at the coffee shop costs \$3.60. Each donut cost the same amount. What is the cost of one donut?

2) A package of 15 computer disks costs \$47.25. If each disk costs the same amount, how much did each disk cost?

- 3) Jenn bought 3 shirts that cost \$12.95 each. She gave the clerk a \$50 bill to pay for the shirts. How much change should Jenn receive?

ESTIMATION AND APPROXIMATION
Strand 10 - Numerical Estimation Strategies

- 1) There were 3,823 people at the Westport Arts Festival on Saturday. On Sunday, 5,139 people attended. To get a good ESTIMATE of how many people attended altogether for both days, which expression would be best to use?
- $4,000 + 5,000$
 - $3,000 + 5,000$
 - $4,000 + 6,000$
 - $3,000 + 6,000$
- 2) Alvin needs to multiply 28 by 33. To get a GOOD ESTIMATE of this product which expression would be best for Alvin to use?
- 30×40
 - 30×30
 - 25×30
 - 20×20
- 3) To estimate the product of 423 and 913, Joe multiplies 400×900 . Is Joe's estimate GREATER than or LESS than the actual amount?
- Greater, because he rounded both numbers up.
 - Greater, because he rounded both numbers down.
 - Less, because he rounded both numbers up.
 - Less, because he rounded both numbers down.
- 4) To ESTIMATE the product of 521 and 613, John multiplied 500×600 . Will John's estimate be MORE or LESS than the actual sum?
- More, because he rounded both numbers up.
 - More because he rounded both numbers down.
 - Less, because he rounded both numbers up.
 - Less, because he rounded both numbers down.

- 5) Josh is helping count supplies for the school picnic. He wants to ESTIMATE the number of hamburgers in 12 cases. Each case holds 24 packages. Each package has 8 hamburgers. What would be a GOOD ESTIMATE of the number of hamburgers?

Answer: _____

Explain how you made your estimate.

Strand 11 - Estimating Solutions to Problems

- 1) David completed 100 questions on the test. His teacher said he did $\frac{2}{3}$ of them correctly. Which best describes the number of questions he answered correctly?
- A little more than 30
 - A little more than 60
 - A little more than 50
 - A little less than 60
- 2) Mr. Jones ordered 18 pizzas for the class party. At the end of the party $3\frac{1}{8}$ pizzas were left. Which describes the number of pizzas the class ate?
- A little more than 14
 - A little more than 15
 - A little less than 14
 - A little less than 15
- 3) Jane needs to add $7\frac{1}{8} + 4\frac{3}{4}$ to get a good estimate of this sum, which expression would be Best for Jane to use?
- $7 + 4$
 - $7 + 5$
 - $71 + 44$
 - $8 + 4$
- 4) Mrs. Jones spent \$682 on groceries last month. This month she spent \$423 on groceries. ABOUT how much less did she spend on groceries this month than last month?
- \$75
 - \$100
 - \$300
 - \$1000

- 5) In June, Christy earned about \$18 for mowing lawns and \$29 for babysitting. ABOUT how much did she earn altogether?
- a. \$80
 - b. \$30
 - c. \$50
 - d. \$25

Strands 12 and 13 not tested at Grade 6

MEASUREMENT

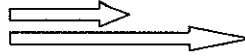
Strand 14 - Time

- 1) By the time Kali arrived at the school at 10:00 a.m. she was already 2 hours and 15 minutes late. At what time did school begin?
- 2) The movie started at 2:30 p.m. and ended at 4:20 p.m. How long was the movie?
- 3) Amy's history class begins at 8:30 and ends at 9:15. How long is the class?
- 4) Tiffany left her home for the mall at 11:15 A.M and returned home at 2:45 P.M. How long was she gone?
- 5) Sara's mom jogs 25 minutes each day except on Saturday and Sunday. How much time does she spend running in a week?

Strand 15 - Approximating Measures

1) If the shorter arrow is 3 inches long, ABOUT how long is the other arrow?

- a. 9 in.
- b. 4 in.
- c. 6 in
- d. 12 in.



2) A scale shows a weight of 10 grams. What object is most likely being weighed?

- a. Book
- b. Pencil
- c. Sandwich
- d. Carton of milk

Strand 16 - Customary and Metric Measurements

1) A football field is 100 YARDS long. How many FEET would you run if you ran exactly half way down the field?

Answer: _____

2) The 18-wheel truck is 10 meters long. How many centimeters is that?

Answer: _____

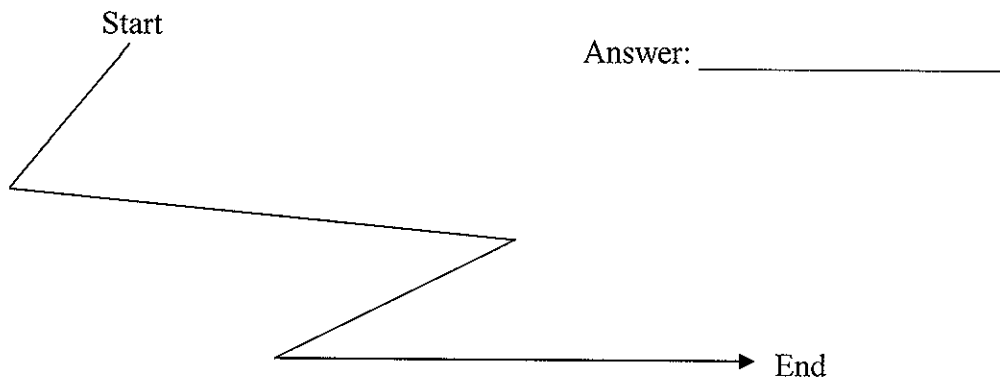
3) A basketball player is 209 cm tall. How many meters tall is that?

4) Measure the length of the pen to the NEAREST centimeter.

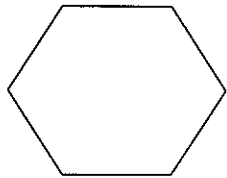


Length = _____

- 5) There is a funny path below. Each half-inch is worth two yards. How many yards do you think it is worth?

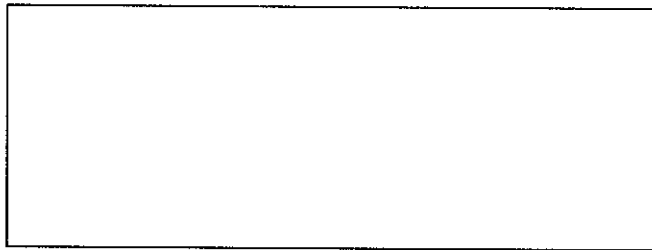


- 6) Determine the PERIMETER of this figure to the nearest CENTIMETER.



Perimeter = _____

- 7) Use your ruler to determine the AREA of the rectangle in square INCHES. Measure to the nearest whole inch.



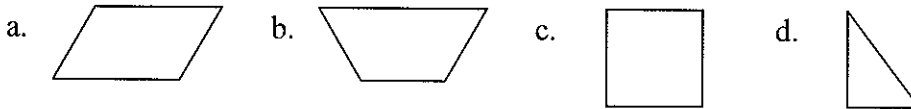
Area = _____

- 8) The BEST unit to measure the perimeter of your yard would be:
- Kilometers
 - Millimeters
 - Centimeters
 - Meters

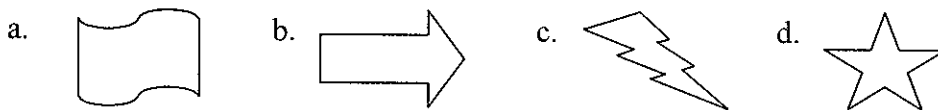
- 9) The BEST unit to measure the amount of water in a bathtub would be:
- a. Cups
 - b. Gallons
 - c. Tons
 - d. Quarts
- 10) The length of a floor in a gym is best measured in
- a. Centimeters
 - b. Liters
 - c. Kilometers
 - d. Meters
- 11) Sam needed to measure the weight of his father's truck. The BEST unit to measure this would be:
- a. Ounces
 - b. Tons
 - c. Grams
 - d. Pints

SPATIAL RELATIONSHIPS AND GEOMETRY
Strand 17 - Geometric Shapes and Properties

- 1) Which of the following shapes is NOT a quadrilateral?



- 2) Which of the following is NOT a polygon?



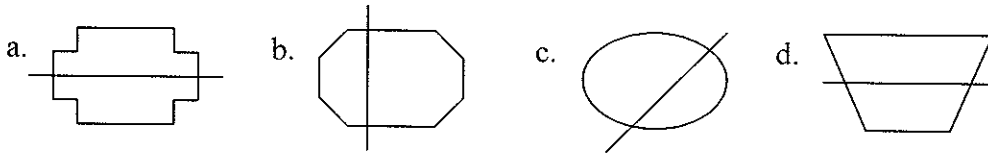
- 3) A rectangle with 4 equal sides is a _____.

- 4) In the space below, draw a parallelogram. Explain why the figure you drew is a parallelogram.

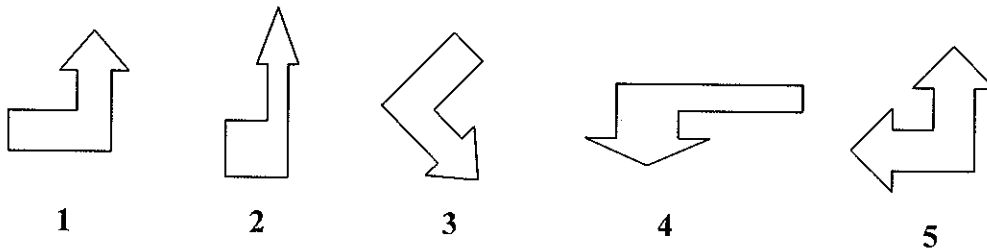
- 5) In the space below, draw a hexagon. Explain why the figure you drew is a hexagon.

Strand 18 - Spatial Relationships

- 1) Which of the following shapes is showing a line of symmetry?



- 2) Which two figures are congruent?

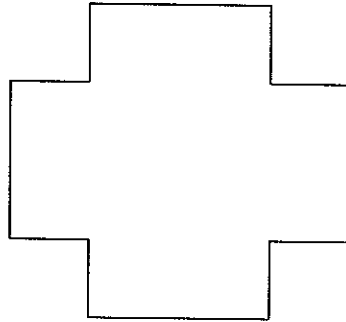


- a. 1 and 5
b. 2 and 3
c. 1 and 3
d. 2 and 4

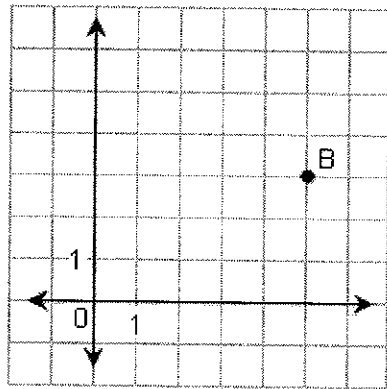
- 3) Which letters have at least one line of symmetry?

A B C D E

- 4) Draw all lines of symmetry in the figure.



- 5) What is the location of point **B**?



- a. (3, 5)
- b. (4, 5)
- c. (5, 4)
- d. (5, 3)

PROBABILITY AND STATISTICS
Strand 19 - Tables, Graphs and Charts

- 1) Ira is comparing the number of small business franchises. Draw and label a BAR graph that shows the number of each franchise shown in the table below.

Number of Franchises 1990	
McDonald's	7919
Jazzercise	4407
Dairy Queen	5214
7-Eleven	3010

- 2) Use the table to answer the following question.

Class	Number of Cans Collected
Mr. Smith	652
Mr. Gomez	507
Ms. Castro	553
Ms. Powell	605

How many classes collected more than 500 cans?

- a. 1
- b. 2
- c. 3
- d. 4

- 3) Use the table to answer the following question.

Number of Students Who Bring a Packed Lunch to School

Days of the week	# of students
Monday	120
Tuesday	90
Wednesday	100
Thursday	109
Friday	70

During how many days did 100 or more students bring their lunch?

- a. 2
- b. 3
- c. 4
- d. 5

- 4) Use the data from the table below to draw and label a bar graph.

Favorite animal	# of people polled
elephant	55
tiger	30
hippo	70
wolf	60
hyena	5

- 5) Jefferson Middle School conducted a newspaper collection drive. **Create a pictograph** and answer the following questions.



= 10 kilogram (kg) of newspapers

Monday = 20 kg
Tuesday = 45 kg
Wednesday = 45 kg
Thursday = 50 kg
Friday = 55 kg

- a. On which day most newspaper was collected?
- b. On which two day the most newspaper was collected?

Strand 20 - Statistics and Data Analysis

- 1) Use the data from the table below to answer the following questions.

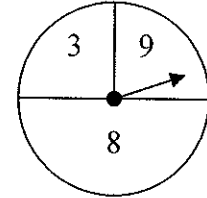
World Rivers

Rivers	Length in Miles
Uruguay	1,000
Bramaputra	1,800
Euphrates	2,235
Gambia	700
Salween	1,500

- a. For a social studies project Rita made a table that shows the length of several rivers in the world. She states Gambia River is about four times the length of the Euphrates River. Is Rita correct? Explain.
- b. According to Rita's chart which river is about twice the length of the Gambia River? Explain.

Strand 21 - Probability

- 1) Kelly and Anna take turns spinning a spinner. Kelly gets a point if the arrow lands on an even number. Anna gets a point if the arrow lands on an odd number. Is this game fair?
 - a. No, because there are more odd numbers than even numbers.
 - b. No, because the outcomes are not equally likely.
 - c. Yes, because the half of the circle has odd numbers and half has an even number.
 - d. Yes, because there are 3 choices.



- 2) How many combinations of two books can be chosen from a group of four on a shelf?
- 3) An ice cream sundae shop offers a choice of chocolate, vanilla, or strawberry ice cream, chocolate or caramel syrup, and nuts or no nuts on top. How many different types of sundaes can they make?

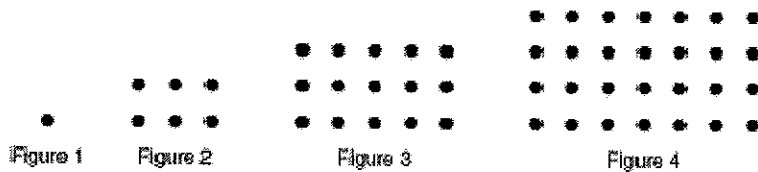
PATTERNS

Strand 22 - Patterns

- 1) What symbol should replace the question mark in the pattern below?



- 2) How many dots are in Figure 5?



- 3) Find the next two numbers in the sequence.
3, 6, 12, 24, 48, ____, ____

ALGEBRA AND FUNCTIONS

Strand 23 - Algebraic Concepts

- 1) What is the value of \hat{r} in this equation?

$$38 + \hat{r} = 99$$

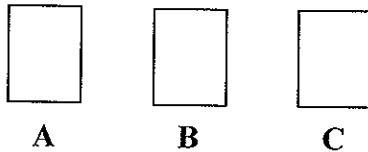
- a. 51
- b. 61
- c. 71
- d. 137

- 2) Identify the solution of $84 \div r = 12$.

DISCRETE MATHEMATICS

Strand 24 - Classification and Logical Reasoning

- 1) Jill has three cards with the numbers 5, 6, and 9. She puts them face down.
- The numbers on cards A and C are ODD numbers
 - The number on card B is GREATER than the number on card C.



Use the two clues above. The number on card A is...

- a. 5
 - b. 6
 - c. 9
 - d. 8
- 2) The Lewis Middle School Band is planning a bus trip to a band competition. There are 138 members in the band and each bus will hold 32 people. How many buses are needed for the trip?

MATHEMATICAL APPLICATIONS

Strand 25 - Mathematical Applications

- 1) Brent wants to earn \$200 to buy a new skateboard. He can earn money mowing lawns. Brent can earn \$10 for each lawn he mows. He can mow at most 4 lawns per week.

How many weeks must Brent mow lawns to buy the skateboard?

- 2) A soup can display has 66 cans. There is one less can in each row than in the row below, with a single can in the top row. How many cans are in the bottom row?
- 3) Suppose a relative matches your age with dollars each birthday. You are 13. How much money have you been given over the years by this relative?