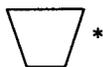


17 Geometric Shapes and Properties

A Identify and draw geometric shapes and figures

Which shape is a quadrilateral?



17 Geometric Shapes and Properties

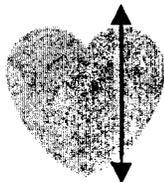
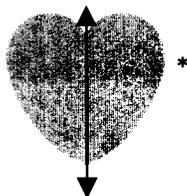
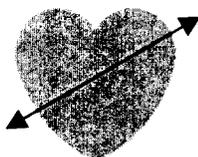
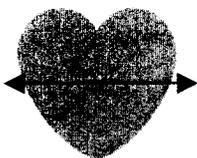
B Describe and classify geometric shapes and figures

Draw a trapezoid. Then explain why the figure you drew is a trapezoid.

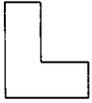
18 Spatial Relationships

A Identify or draw lines of symmetry

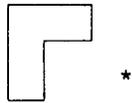
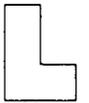
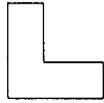
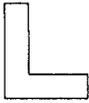
Which picture shows a line of symmetry?



18 Spatial Relationships
B Identify congruent figures

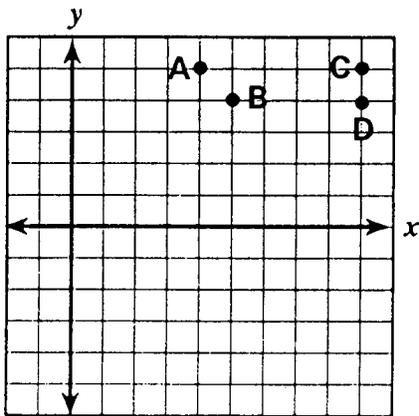


Which of these shapes appears to be congruent to the figure above?



18 Spatial Relationships
C Locate points on grids

What letter is located at (5,4).



- A
- B *
- C
- D

19 Tables, Graphs and Charts**A** Identify correct information from graphs, tables and charts

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

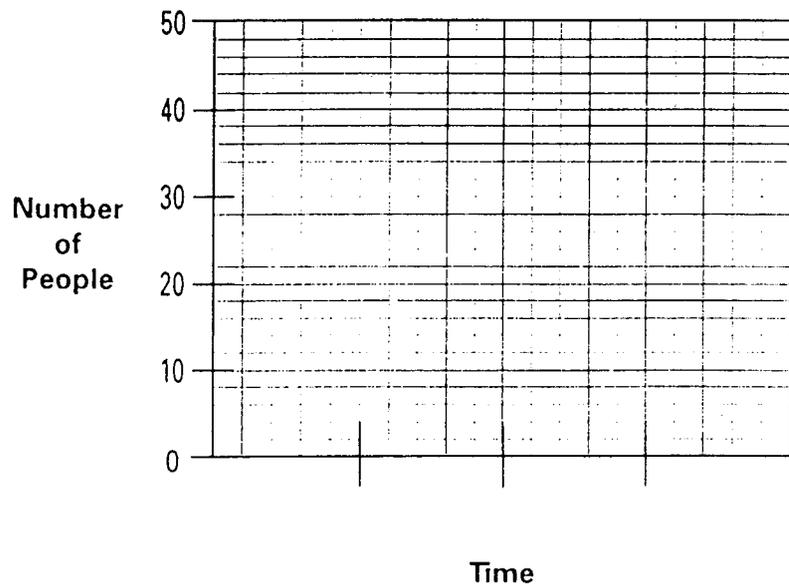
How many classes collected more than 500 cans?

- 1
- 2
- 3
- 4 *

19 Tables, Graphs and Charts**B** Create bar graphs and pictographs from data in tables and charts

The table shows the number of people on each hourly tour of the art museum.
Complete a BAR graph the shows the same information.

Time	Number of people
9:00 am	24
10:00 am	43
11: am	38
12:00 noon	18
1:00 pm	41
2:00 pm	28
3:00 pm	35



20 Statistics and Data Analysis

Draw and justify reasonable conclusions from graphs, tables and charts

This table shows the number of votes each candidate received in an election.

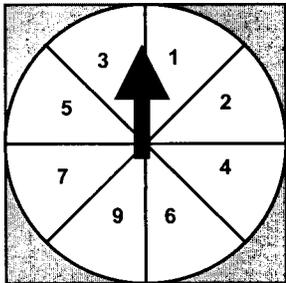
Candidate	Votes
Downey	3,821
Jones	2,746
Smith	4,110
McCoy	2,241
Carter	5,984
Roberts	1,970

Jill claims that Smith received ABOUT twice as many votes as McCoy. Based on the chart above, is Jill's statement accurate. Use the data in the table to explain why or why not.

21 Probability

Solve problems involving elementary notions of probability and fairness, including justifying answers

Joe and Jill take turns spinning this spinner. Joe gets a point if the arrow lands on an even number and Jill gets a point if it lands on an odd number. Is this game fair?



Yes, because there are 8 choices.

Yes, because the outcomes are equally likely.

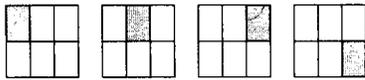
No, because there are more odd than even numbers.*

No, because there are more even than odd numbers.

22 Patterns

A Extend or complete patterns involving numbers and attributes, and identify or state rules for given patterns

These shapes follow a pattern.



Which shape should be next in the pattern? Draw the next shape and explain why you think that it is the next shape in the pattern.

23 Algebraic Concepts

Solve simple 1-step equations

What is the value of x in this equation?

$$43 + x = 65$$

- 12
- 99
- 22*
- 108

24 Classification and Logical Reasoning

Solve problems involving the organization of data

Ann, Joe, Harry and Don collected shells at the beach yesterday.

- Joe collected more than Harry and Ann.
- Don collected the FEWEST shells.

Who collected the MOST shells?

- Don
- Harry
- Joe*
- Ann

25 Mathematical Applications**A Numerical**

Sam and his family have \$50 to spend at a restaurant. The members of his family are listed below:

Sam
Betty
Gil
Heather

The menu at the restaurant is as follows:

ENTREES	
Chicken Dinner	9.95
Hamburger	5.95
Cheeseburger	6.95
Fish Dinner	8.95
DRINKS	
Large Soda	1.50
Tea	.95
Coffee	1.25
Milk	1.00
DESSERTS	
Cake	2.50
Pie	1.95
Ice Cream	2.25

Each member of Sam's family orders 1 entrée, 1 drink and 1 dessert. Determine an order for the family that is under \$50 and explain your mathematical thinking below.

25 Mathematical Applications

B Spatial

Rob has these three kinds of stars:



8 of these



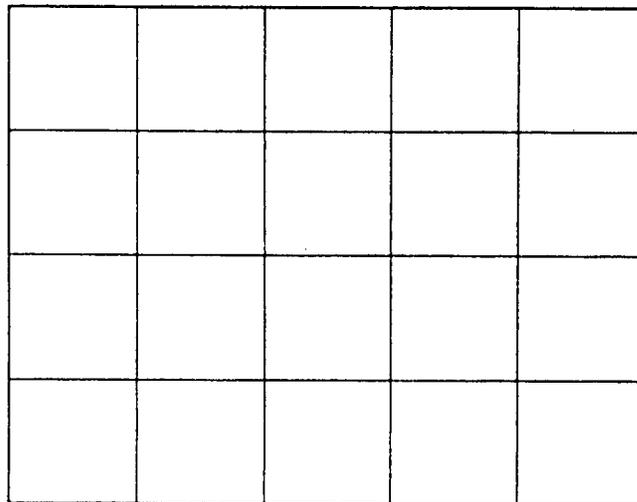
4 of these



8 of these

He plans to use all 20 stars to make a design on his ceiling that is 4 rows by 5 columns. He also wants each row to be congruent to every other row.

Use the grid below to draw a design that Rob could use. Be sure to use all 3 kinds of stars. Then explain why each row is congruent to every other row.



25 Mathematical Applications
C Statistical

Evan wanted to earn enough money to buy a new set of golf clubs. He created the following table to show the hours he was available to work each day:

Day	Hours Available To Work
Saturday	5 hours
Sunday	2 hours
Monday	$1\frac{1}{2}$ hours
Tuesday	1 hour
Wednesday	$1\frac{1}{2}$ hours
Thursday	$2\frac{1}{2}$ hours
Friday	$1\frac{1}{2}$ hours

If Evan earns \$4 per hour and can only work 12 hours each week, how long will it take him to earn the money necessary to purchase a set of golf clubs that cost \$200.

In the space below, create a schedule that shows the 12 hours Evan could work and how you arrived at your solution.

Grade 8

1 Place Value**A** Solve problems involving 0.1 and 0.01 more or less

A rare specimen weighed 1.08 grams. If the weight increased by 0.01 grams, what would the specimen now weigh?

1.09 g*

1.90 g

9.10 g

19.0 g

1 Place Value**B** Identify alternative forms of expressing numbers using expanded notation

Which means the same as $4 + 0.3 + 0.01$?

430.1

43.01

4.31*

4.031

1 Place Value**C** Identify alternative forms of expressing numbers using scientific notation

Which means the same as 1.23×10^3 ?

1230*

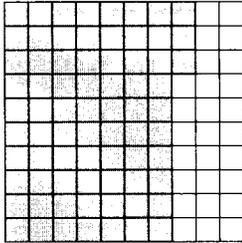
123.0

12.30

1.230

2 Pictorial Representations of Numbers

A Relate fractions, decimals and percents to their pictorial representations and vice versa



Which percent names the amount of the grid that is shaded?

- 6.3percent
- 7.3percent
- 63percent
- 73percent*

2 Pictorial Representations of Numbers

B Construct pictorial representations of fractions, decimals and percents

Shade $\frac{2}{5}$ of the shape.



3 Equivalent Fractions, Decimals and Percents

A Rename fractions and mixed numbers as equivalent decimals and vice versa

$\frac{4}{5}$ of Chip's family likes corn. Which decimal number names the same amount?

- 4.5
- 0.45
- 0.80*
- 0.08

3 Equivalent Fractions, Decimals and Percents**B** Rename fractions and decimals as equivalent percents and vice versa

60percent of Sally's family likes corn. What decimal names the same amount?

- 0.6*
- 0.66
- 0.06
- 6.0

4 Order, Magnitude and Rounding of Numbers**A** Order whole numbers and decimals

The table shows ticket sales for 4 days.

Day	Number of Tickets Sold
Friday	1264
Saturday	1821
Sunday	2104
Monday	1994

Which list shows the days in order from the LEAST number of tickets sold to the GREATEST number of tickets sold?

- Monday, Saturday, Sunday, Friday
- Friday, Saturday, Sunday, Monday
- Friday, Saturday, Monday, Sunday *
- Sunday, Saturday, Monday, Friday

4 Order, Magnitude and Rounding of Numbers**B** Order fractions and mixed numbers

John used his computer $4\frac{1}{4}$ hours on Monday, $4\frac{1}{2}$ hours on Wednesday and $3\frac{7}{8}$ hours on Friday. Which list shows these days in order from the GREATEST to LEAST amount of computer time?

- Monday, Wednesday, Friday
- Wednesday, Monday, Friday*
- Friday, Wednesday, Monday
- Wednesday, Friday, Monday

4 Order, Magnitude and Rounding of Numbers

C Describe the magnitude of whole numbers and decimals

Sue scored between 7.2 and 7.4 points. Which could be the number of points she scored?

- 7.19
- 7.24*
- 7.41
- 7.03

4 Order, Magnitude and Rounding of Numbers

D Describe the magnitude of fractions and mixed numbers

Jim rode his bike between $1\frac{1}{2}$ and $1\frac{3}{4}$ hours. Which could be the number of hours he rode?

- $1\frac{3}{8}$
- $1\frac{5}{8}$ *
- $1\frac{7}{8}$
- $1\frac{13}{16}$

4 Order, Magnitude and Rounding of Numbers

E Round whole numbers, fractions and decimals in a context

Rosie's restaurant served 32,817 customers last year. This number rounded to the NEAREST thousand is

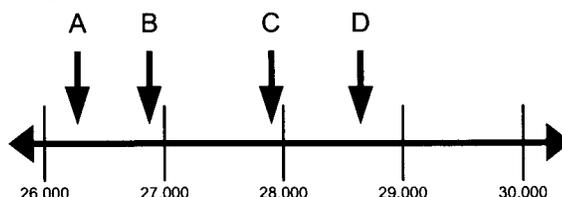
- 32,000
- 33,000*
- 35,000
- 30,000

4 Order, Magnitude and Rounding of Numbers

F Locate points on number lines and scales, including fractions, decimals and integers

One of the leading passers in professional football passed for 26,862 yards during his career. Which point BEST represents this amount?

- A
- B
- C
- D



5 Models for Operations**A** Identify the appropriate number sentence or operation to solve a story problem

Joe's dog weighed 101.5 pounds at the beginning of summer but lost 9.2 pounds by the end of summer. Which number sentence could be used to determine the dog's weight at the end of the summer?

$$101.5 - 9.2 = \square^*$$

$$101.5 + 9.2 = \square$$

$$101.5 \div 9.2 = \square$$

$$101.5 \times 9.2 = \square$$

5 Models for Operations**B** Write story problems from equations involving fractions, decimals and unknowns

Write a story problem that can be solved using the equation:

$$18.64 \div 0.5 = X.$$

7 Computation with Whole Numbers and Decimals**A** Add and subtract 2-, 3- and 4-digit whole numbers and decimals

Solve this problem.

$$1,243 + 847 =$$

7 Computation with Whole Numbers and Decimals (Including Money)**B** Multiply and divide whole numbers and decimals by 10, 100 and 1000

Solve this problem.

$$48.50 \times 10 =$$

7 Computation with Whole Numbers and Decimals**C** Multiply and divide 2- and 3-digit whole numbers, money amounts and decimals by 1-digit whole numbers and decimals

Solve this problem

$$\begin{array}{r} 643 \\ \times 0.6 \\ \hline \end{array}$$

8 Computation with Fractions**A** Add and subtract fractions and mixed numbers with reasonable and appropriate denominators

$1/4 + 3/8 =$

5/4

5/8*

4/8

4/12

8 Computation with Fractions**B** Multiply whole numbers and fractions by fractions and mixed numbers

$14 \times 2/3 =$

21

9 1/3*

5 1/3

1/21

9 Solve Word Problems**A** Solve 1-step problems involving whole numbers, decimals and money amounts

The employees of the local insurance company collected \$5768.67 for a new children's playground. The employees of a local car dealership collected \$3910.56 How much money did they collect all together?

\$9679.23*

\$9679.13

\$9678.13

\$8679.23

9 Solve Word Problems**B** Solve 1-step problems involving fractions and mixed numbers

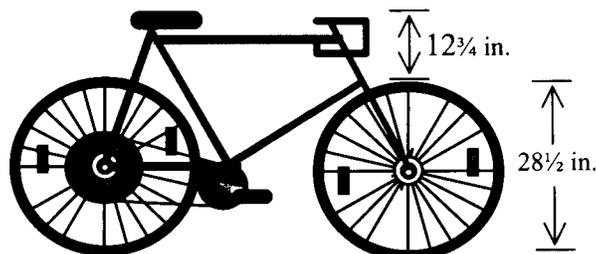
What is the total height of the bicycle shown?

40 1/4 in.

40 4/6 in.

41 1/4 in. *

45 1/4 in.



9 Solve Word Problems

- C** Solve multi-step problems involving whole numbers, decimals, fractions and mixed numbers, including averages and/or problems with extraneous information

Allison drove 83.4, 98.1, 83.2 and 94 miles on four different days. What is the AVERAGE number of miles Allison drove on the four days

9 Solve Word Problems

- D** Solve multi-step problems and explain how the solution was determined

Leslie bought 3 notebooks that each cost \$2.89 and 6 pens that each cost \$.79. She handed the clerk a \$20. If there is no tax, how much change should Leslie receive? Show or explain how you got your answer.

10 Numerical Estimation Strategies

- A** Identify the best expression to find an estimate

Evan needs to multiply 989 by 79,899. Which of the following would be BEST for Evan to use to ESTIMATE the difference?

- 900 x 80,000
- 900 x 70,000
- 1000 x 80,000 *
- 1000 x 70,000

10 Numerical Estimation Strategies

- B** Identify whether and why a particular strategy will result in an overestimate or an underestimate

To ESTIMATE the product of 5218 and 6134, Rachel multiplied 5000 x 6000. Would Rachel's estimate be MORE or LESS than the actual sum?

- More, because she rounded both numbers up.
- More, because she rounded both numbers down.
- Less, because she rounded both numbers up.
- Less, because she rounded both numbers down.*

10 Numerical Estimation Strategies

C Determine a reasonable estimate and describe the strategy used to make the estimate

Kim wants to ESTIMATE the cost per ounce of an 8.7-ounce jar of sauce that costs \$1.75.

What would be a GOOD ESTIMATE?

Explain how you made your estimate.

11 Estimating Solutions to Problems

A Estimate a reasonable answer to a problem

Nancy rode on the bus 38.45 miles the first week of school and 29.85 miles the second week. ABOUT how many miles did she ride on the bus during the two weeks?

- A little less than 60
- A little more than 60
- A little less than 70*
- A little more than 70

11 Estimating Solutions to Problems

B Use estimation to make and defend decisions

The groundskeeper at the ballpark needed dirt to cover 380.75 square feet of one field and 590.50 square feet of another. He bought 800 square feet of dirt. Explain how you could use ESTIMATION to decide if he bought enough dirt to cover both fields.

12 Ratios and Proportions

A Solve problems involving ratios

If the ratio of oil to gas in a lawn mower is 1 to 16, which of these should NOT be used in the mower?

- 4 parts oil, 64 parts gas
- 2 parts oil, 32 parts gas
- 1 part oil, 8 parts gas*
- 5 parts oil, 80 parts gas

12 Ratios and Proportions

B Solve problems involving proportions

Joe worked 6 hours and was paid a total of \$27. At this rate, how long would it take Joe to earn \$90?

- 40.5 hours
- 20 hours*
- 15 hours
- 3 1/2 hours

13 Computation with Percents

A Find percents of whole numbers or the percent a given number is of another number

75percent of 16 =

13 Computation with Percents

B Solve problems involving percents

Kelly saved 40percent of her \$90 paycheck. How much money did she save?

15 Approximate Measures

Estimate lengths, areas and angle measures



If the length of the turtle is 30 centimeters, the length of the dog is ABOUT

- 50 cm
- 60 cm
- 75 cm *
- 100 cm

16 Customary and Metric Measures

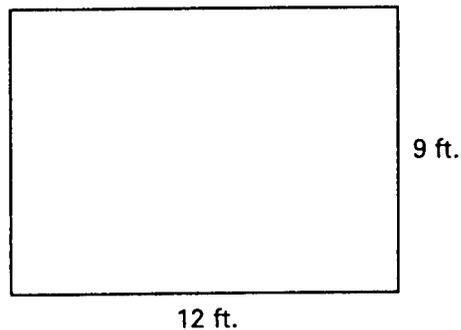
A Solve problems involving the conversion of units of measure, including time

Greg is 150 centimeters tall. How many meters is that?

- 0.500
- 1.5*
- 15
- 15,000

16 Customary and Metric Measures

B Measure or determine perimeter, area and volume



What is the AREA of this rectangle?

16 Customary and Metric Measures

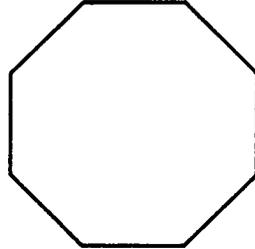
C Identify appropriate metric or customary units of measure (length, capacity, mass) for a given situation

Which is the BEST unit to measure the amount of water needed to fill a swimming pool?

- gallons*
- quarts
- pints
- cups

17 Geometric Shapes and Properties

A Identify and draw geometric shapes and figures



What is a name for this shape?

- decagon
- pentagon
- octagon*
- quadrilateral

17 Geometric Shapes and Properties

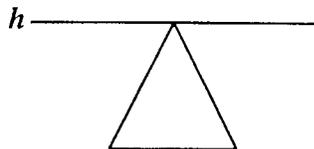
B Describe and classify geometric shapes and figures

Draw a hexagon, then describe what a hexagon is.

18 Spatial Relationships

A Identify or draw geometric transformations

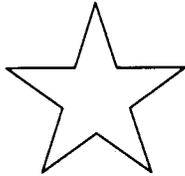
Draw a reflection of the figure across line h .



18 Spatial Relationships

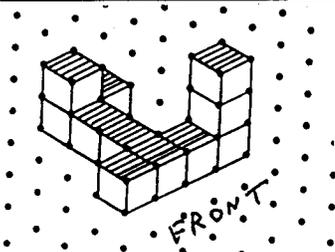
B Identify, draw or describe lines of symmetry

Draw 1 line of symmetry on the figure. Then write a sentence or two to tell why the line you drew is a line of symmetry.

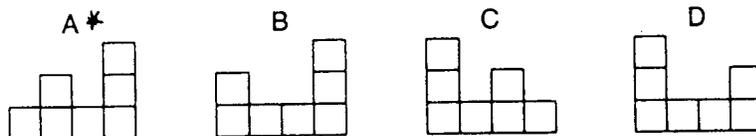


18 Spatial Relationships

C Relate 2-dimensional and 3-dimensional representations



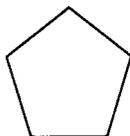
Which figure BEST represents what the front of this building would look like?



18 Spatial Relationships

D Identify and describe congruent and similar figures

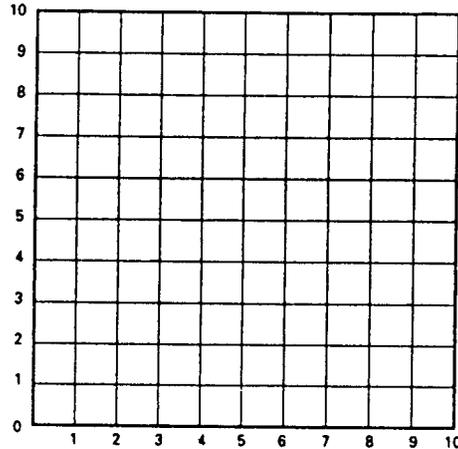
Draw a figure congruent to the one below.
Explain why the figure you drew is congruent.



18 Spatial Relationships

E Locate and draw points on grids

Write the letter A at the point (5,4).

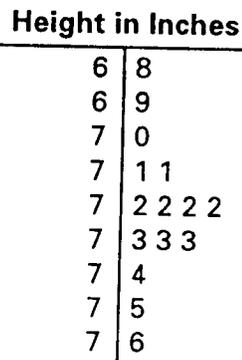


19 Tables, Graphs and Charts

A Identify correct information from graphs, tables and charts.

Based on the data in the stem and leaf plot, how many students were under 6 feet tall?

- 3
- 4
- 5*
- 6

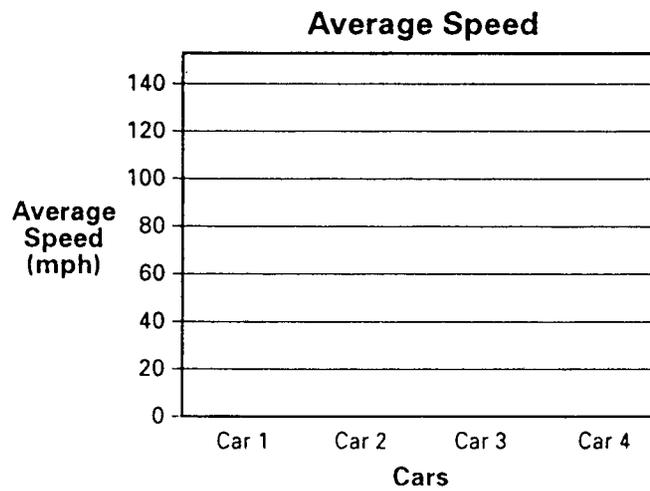


19 Tables, Graphs and Charts

B Create bar graphs, line graphs, and stem and leaf plots from data in tables and charts

The table shows the AVERAGE speeds for the FIRST 4 finishers in a car race.
Complete the BAR GRAPH to show the same information.

Car	Average Speed (mph)
1	118
2	126
3	132
4	122



20 Statistics and Data Analysis**A** Draw and justify reasonable conclusions from graphs, tables and charts

This table shows the AVERAGE number of people that shop at Joe's store for each day of the week.

Day	Average Number of People
Monday	102
Tuesday	80
Wednesday	95
Thursday	132
Friday	157

Rick needs to close early one day next week. Based on this data, which day would be BEST for Rick to close early?

Monday
Tuesday *
Wednesday
Thursday

20 Statistics and Data Analysis**B** Solve problems involving means and medians of sets of data

The table shows the number gallons of paint sold at a paint store each week in one month.

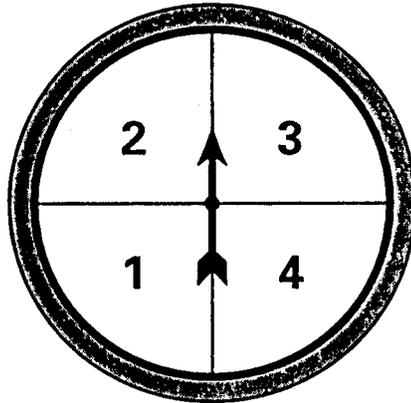
Week	Average Number of Gallons Sold
1	235
2	412
3	357
4	286

What was the AVERAGE number of gallons of paint sold each week at this store?

21 Probability

A Solve problems involving elementary notions of probability and fairness, including justifying answers

If Tom spins this spinner once, what is the probability that the arrow will land on 4?



Explain how you arrived at your solution.

21 Probability

B Solve problems involving expected outcomes or predictions

The table shows the results of a probability experiment involving picking colored cubes out of a box.

Color	Number of Times Picked
Purple	5
White	7
Yellow	4
Green	2
Blue	6
Red	5

Which would be a REASONABLE statement about all the cubes in the box?

There are more purple cubes than any other color.

There are no white cubes.

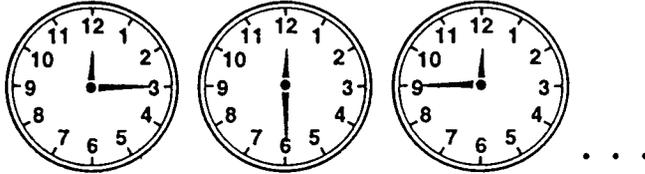
There are the same number of yellow and green cubes.

There is a greater chance of picking a blue cube than a red cube.*

22 Patterns

Extend or complete patterns involving numbers and attributes, and identify or state rules for given patterns

These clocks follow a pattern.



Draw the clock that should be 12th in the pattern. Write a sentence that explains how you decided what to draw.

23 Algebraic Concepts

A Solve simple 1-step equations

Solve this problem.

What is the value of X in this equation?

$$X - 8.6 = 57.52$$

23 Algebraic Concepts

B Use order of operations

$$16 \div (2 - 1) =$$

7

16*

6

8

23 Algebraic Concepts**C** Evaluate expressions and use formulas

In this formula, C represents the total charge in dollars for babysitting, and H represents the number of hours the child is kept. How much should Valerie pay if his child is at the babysitting service for 3 hours?

$$C = 5.25 + 2.50H$$

\$7.75

\$12.75*

\$14.25

\$23.25

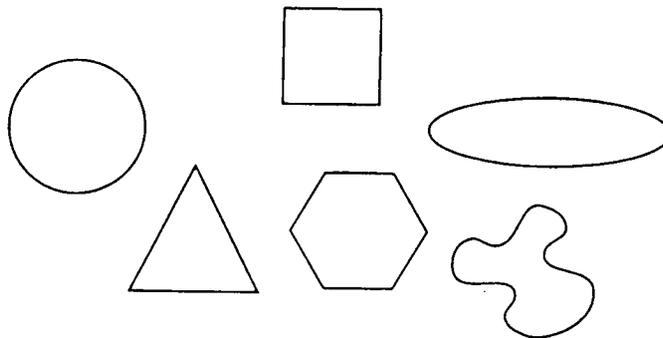
23 Algebraic Concepts**D** Represent situations with algebraic expressions

Mike just bought M baseball trading cards. He sold 6 to his friend. Which expression represents how many new trading cards he has left?

 $6 - M$ $6M$ $M + 6$ $M - 6^*$ **24 Classification and Logical Reasoning**

Solve process problems involving the organization of data

Draw these shapes in 2 groups so the figures in each group have something in common. Then write a sentence that explains how you grouped the shapes.



25 Mathematical Applications**A Numerical**

Ross and his four friends had \$100 to spend at a restaurant. The members of the group are Ross, Betty, George, Melanie and Tyrone.

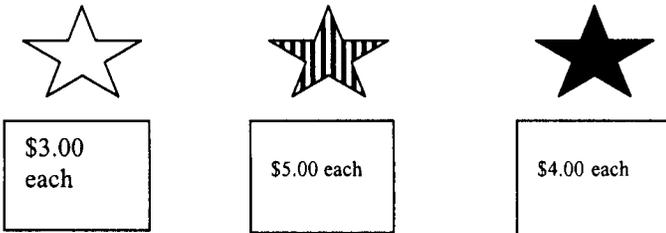
The menu at the restaurant is as follows:

ENTREES	
Chicken Dinner	9.95
Hamburger	5.95
Cheeseburger	6.95
Fish Dinner	8.95
DRINKS	
Large Soda	1.50
Tea	.95
Coffee	1.25
Milk	1.00
DESSERTS	
Cake	2.50
Pie	1.95
Ice Cream	2.25

Each member of the group ordered at least one entrée, at least one drink and only one dessert. Show what each member of the group could have ordered and how much each spent if the group spent about \$90 in all.

25 Mathematical Applications
B Spatial

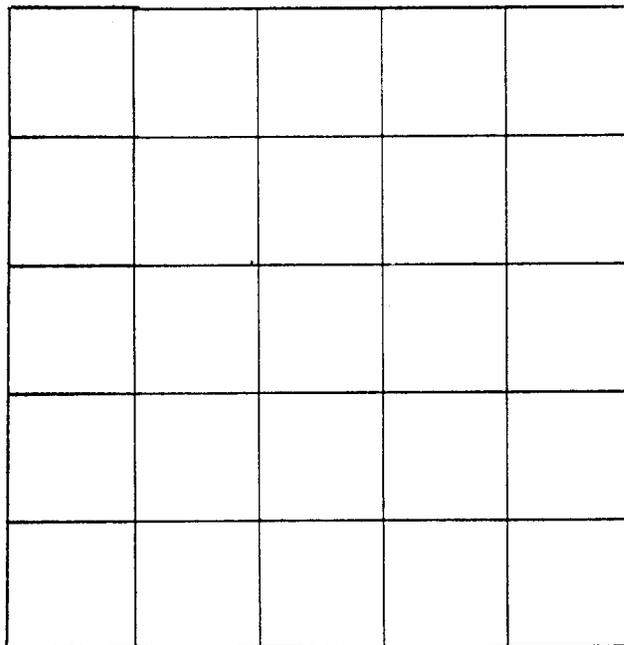
Sharon has these three kinds of stars:



She plans to use 25 stars to make a design on her ceiling that is 5 rows by 5 columns. She wants the design to be symmetrical and she only has \$100 to spend.

Use the grid below to draw a design that Sharon could use. Be sure to use all 3 kinds of stars.

Then show how much Sharon spent and explain why the design is symmetrical.



25 Mathematical Applications
C Statistical

Jan wanted to earn enough money to buy a new stereo. He created the following table to show the hours he was available to work each day:

Day	Hours Available To Work
Saturday	5 hours
Sunday	2 hours
Monday	$1\frac{1}{2}$ hours
Tuesday	1 hour
Wednesday	$1\frac{1}{2}$ hours
Thursday	$2\frac{1}{2}$ hours
Friday	$1\frac{1}{2}$ hours

Jan earns \$5.75 per hour and can only work 15 hours each week.

In the space below, create a schedule that shows the 15 hours Jan could work each week.

Then determine how many weeks Jan needs to work in order to make \$350.

Show your work.

