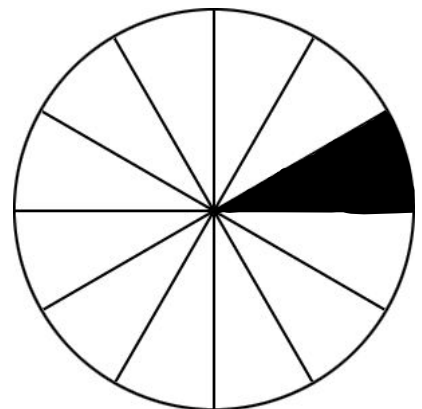
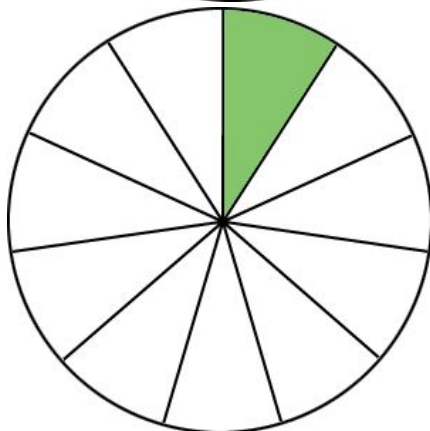
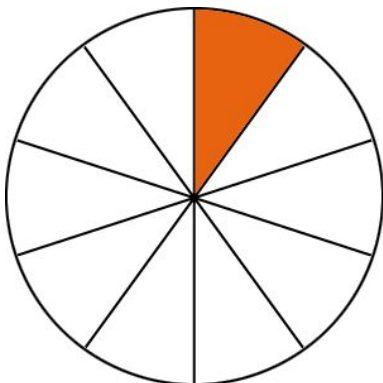
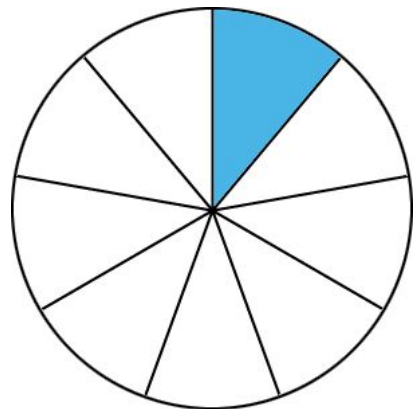
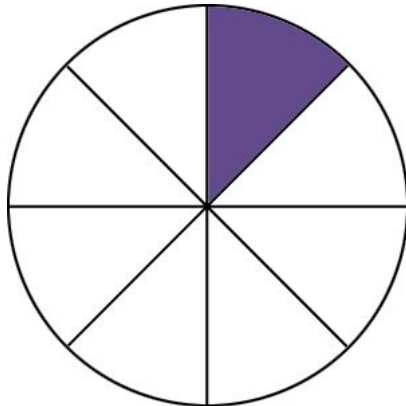
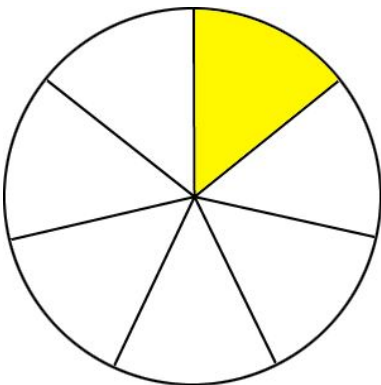
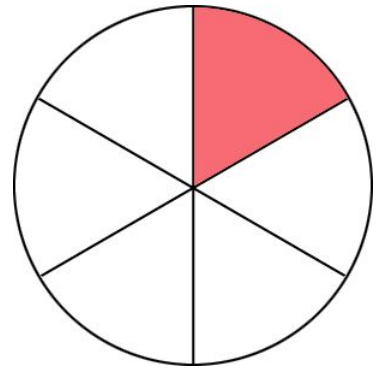
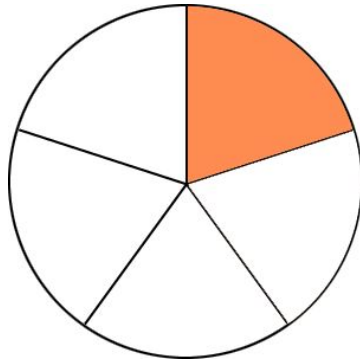
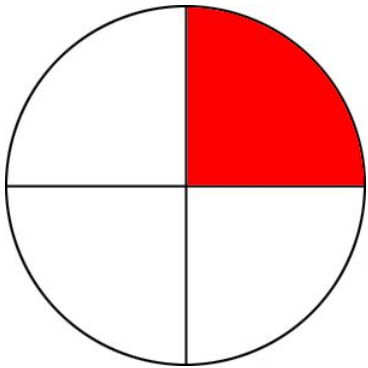


**Sample Items Part I**  
**Gen. 4 Math Handbook**  
**10/14/05**  
**Answers Not Included**



# Connecticut Mastery Test – 4<sup>th</sup> Generation

## Mathematics Grade 3 Sample Items

### NUMERICAL AND PROPORTIONAL REASONING

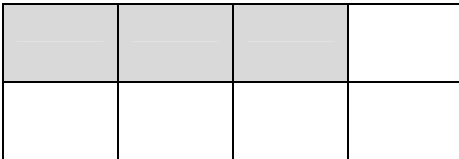
#### 1.D Place Value

The value of 79 would change by how much if the 7 was replaced by a 5?

- 2  
 5  
 20  
 50

#### 2.B Pictorial Representation of Numbers

What part of this shape is shaded?



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

#### 4.C Order, Magnitude, Rounding of Numbers

Maria and her sister baked 48 cookies. Which number is **closest** to 48?

- 60  
 50  
 40  
 30

#### 5B Models for Operations

Malik has 12 animal books and 26 comic books. Which number sentence is best to use to find out how many **more** comic books he has than animal books?

- $12 + 26 = \square$   
  $26 - 12 = \square$   
  $12 \times 26 = \square$   
  $26 \div 12 = \square$

#### 6.B Basic Facts

$$2 \overline{) 18}$$

- 7  
 8  
 9  
 16

#### 7.B Computation with Whole Numbers and Decimals

$$58 + 25 =$$

- 33  
 73  
 83  
 84

**9A. Solve Word Problems**

Jon had 56 baseball cards. He gave 23 of them to his brother. How many baseball cards does Jon have left?

- 23
- 33
- 34
- 79

**10A Numerical Estimation Strategies**

Kim wants to subtract 285 from 411. Which of the following would be **best** for Kim to use to **estimate** the answer?

- 400 – 200
- 400 – 300
- 500 – 200
- 500 – 300

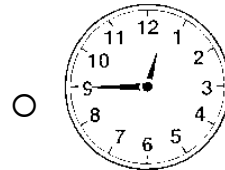
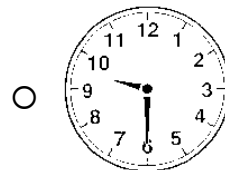
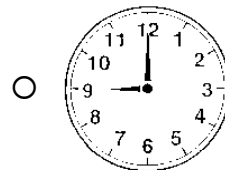
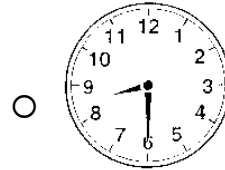
**11.A Estimating Solutions to Problems**

Ms. Parker bought food for \$18. She gave the cashier \$50. **About** how much change did the cashier give Ms. Parker?

- \$30
- \$40
- \$60
- \$70

**GEOMETRY AND MEASUREMENT****14A Time**

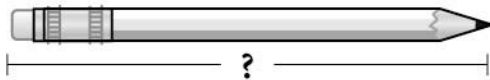
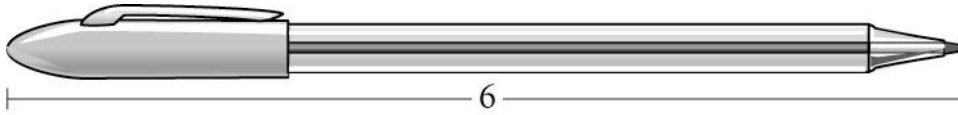
Carl's bedtime was at 9:00. Which clock shows that time?



## GEOMETRY AND MEASUREMENT

## 15.A Approximating Measures

The pen is 6 units long.



**About** how many units long is the pencil?

- 2
- 3
- 4
- 5

## 16.B Customary and Metric Measures

Draw a line segment that is 12 centimeters long.

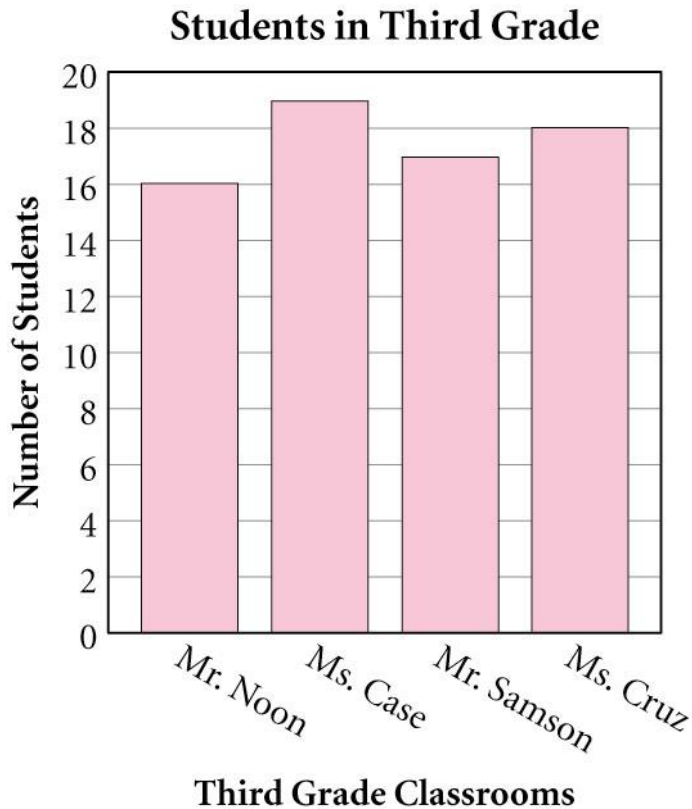
## 17.B Geometric Shapes and Properties

In the space below, draw a shape that has **exactly** 6 sides.

**WORKING WITH DATA: PROBABILITY AND STATISTICS**

**19.A Tables, Graphs and Charts**

The bar graph below shows the number of students in each third grade class.

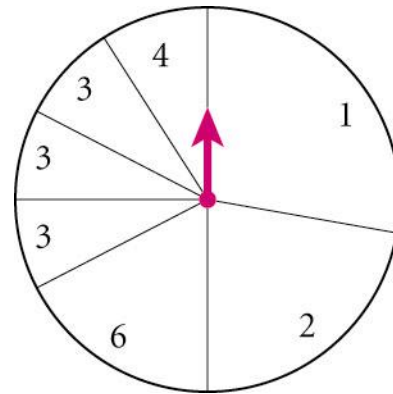


How many students are in Mr. Samson's class?

- 16  
 17  
 18  
 19

**21.A Probability**

If Jack spins the spinner once, on which number is the arrow **most likely** to land?



- 1  
 2  
 3  
 4

**ALGEBRAIC REASONING:  
PATTERNS AND FUNCTIONS**

**22.A Patterns**

Which rule was followed in the table below?

START	END
5	2
7	4
10	7
12	9

- Add 2  
 Subtract 3  
 Multiply by 2  
 Divide by 5

**ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS**
**22.B Patterns**

These numbers follow a pattern.

11, 14, 17, 20,    ?

What number should come next in the pattern?

**Answer** \_\_\_\_\_

Explain why you think that number should be next in the pattern.

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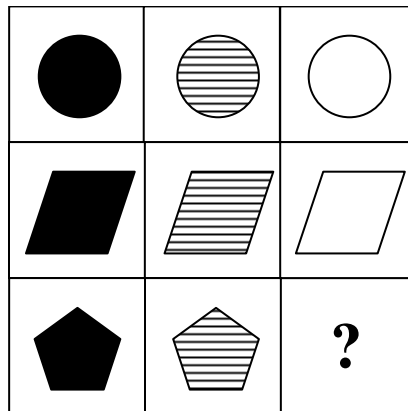


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Which figure belongs in the empty box?



**Draw** the figure \_\_\_\_\_

Show or explain how you found your answer.

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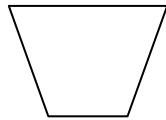
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**24.B Classification and Logical Reasoning**

Sort all 7 of these figures into 2 groups so that the figures in each group have something in common. Show how you grouped the figures by writing the **letter** (Q, R, S, T, U, V, or W) of each figure on the chart.



Q



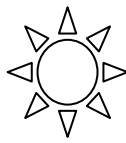
R



S



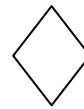
T



U



V



W

Group 1	Group 2

Explain why you grouped the figures the way you did.

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## Grade 3: INTEGRATED UNDERSTANDINGS

## 25 Mathematical Applications

Jeff needs to raise \$80 to go on a class trip. He can do different jobs to earn the money. Jeff can work at the following jobs for the pay listed.

JOB	PAY PER HOUR
Sweep garage	\$1
Dust	\$1
Return bottles	\$2
Wash the car	\$3
Baby-sit	\$5

Use the information above to show one way that Jeff can raise the \$80.

- Jeff can work for no more than 40 hours in all.
- No one job may be done for more than 10 hours.
- At least 3 different jobs must be picked.
- A total of exactly \$80 must be raised.

Fill in the chart to show the number of hours each job was done in order to earn exactly \$80.

JOB	HOURS WORKED	MONEY RAISED
Sweep garage		
Dust		
Return bottles		
Wash the car		
Baby-sit		
TOTALS:		

Connecticut Mastery Test – 4<sup>th</sup> Generation  
**Mathematics Grade 4 Sample Items**

**NUMERICAL AND PROPORTIONAL REASONING**
**5.B Models for Operations**

A classroom received 4 boxes of new books. Each box contained 15 books. Which number sentence could be used to find out how many books were in all the boxes?

- $15 + 4 =$    
  $15 - 4 =$    
  $15 \times 4 =$    
  $15 \div 4 =$

A box of 35 cookies was to be shared equally by 5 friends. Which could be used to find out how many cookies each friend would get?

- Add 35 to 5  
 Subtract 5 from 35  
 Multiply 35 by 5  
 Divide 35 by 5

**8.A Computations with Fractions**

$$\begin{array}{r} \frac{7}{10} \\ - \frac{4}{10} \\ \hline \end{array}$$

- $\frac{3}{1}$   
  $\frac{11}{10}$   
  $\frac{10}{11}$   
  $\frac{3}{10}$

**10.A Numerical Estimation Strategies**

Lance is buying a bike. One type costs \$148 and another type costs \$171. Which of the following would be **best** for Lance to use to **estimate** the difference in price between the two bikes?

- $\$170 - \$140$   
  $\$170 - \$150$   
  $\$180 - \$140$   
  $\$180 - \$150$

**11.A Estimating Solutions to Problems**

Tanya bought a sandwich for \$3.85 and a drink for \$1.95. Which of the following would be a reasonable **estimate** of the amount Tanya spent?

- a little less than \$5  
 a little more than \$5  
 a little less than \$6  
 a little more than \$6

Sam ran between 8 and 15 miles a week for 5 weeks. **About** how many miles could he have run?

- 50  
 80  
 100  
 130

## GEOMETRY AND MEASUREMENT

### 14.A Time

#### January

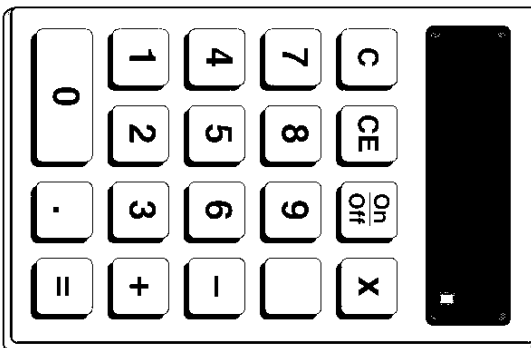
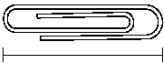
Sun	Mon	Tues	Wed	Thur	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Tina had a bike race on the second Tuesday of the month shown above.  
What date was that?

- January 2
- January 9
- January 10
- January 16

### 15.A Approximating Measures

The paper clip is 3 units long



**About** how many units long is the calculator?

- 6
- 9
- 12
- 15

### 16.B Customary and metric measures

Use your ruler to draw a line segment that is 7 centimeters long

**WORKING WITH DATA: PROBABILITY AND STATISTICS**

**19.B Tables, Graphs and Charts**

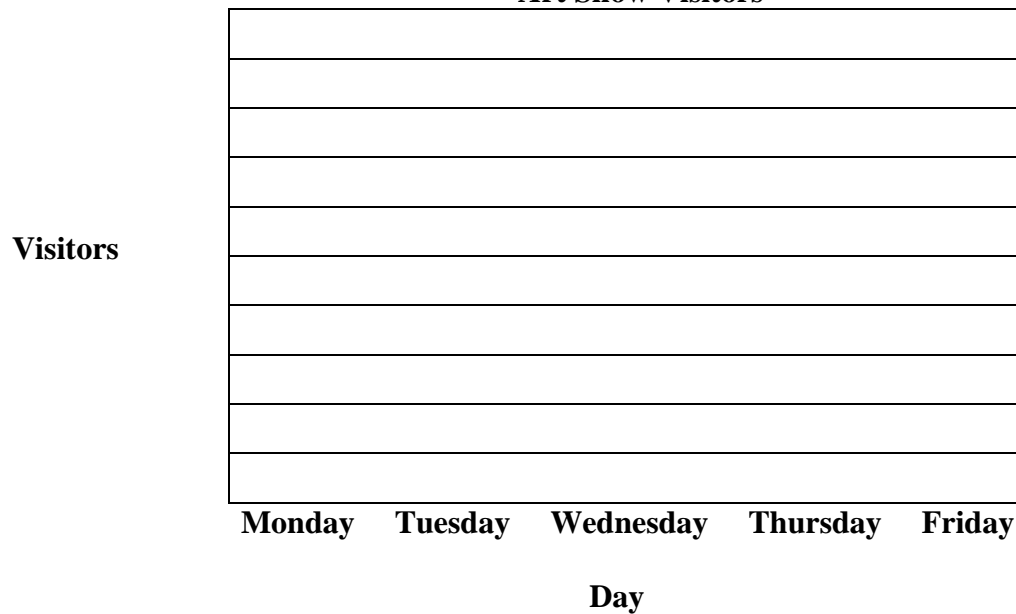
The table shows the number of visitors to an art show last week.

Art Show Visitors

Day	Number of Visitors
Monday	15
Tuesday	50
Wednesday	55
Thursday	80
Friday	65

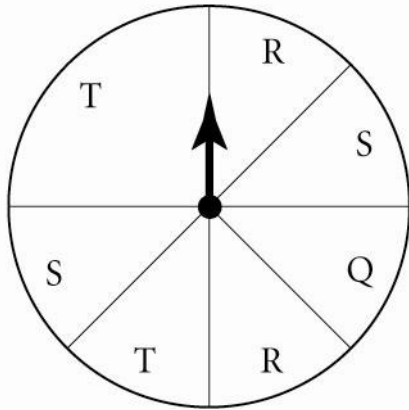
Label and complete a **bar graph** below to show the same information as in the table. Do **not** shade the bars.

Art Show Visitors



### 21.A Probability

Jess is playing a game with a spinner.



If Jess spins the arrow once, on which letter is it **least** likely to land?

- T
- S
- R
- Q

### ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS

#### 22.A Patterns

The numbers in the chart follow a pattern.

3	15	27
6	18	30
9	?	33
12	24	36

Which number is missing from the pattern?

- 19
- 20
- 21
- 22

### 23.A Algebraic Concepts

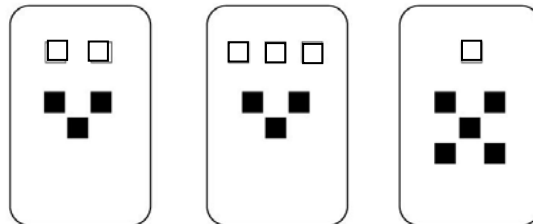
If  $\begin{array}{cc} \square & \square \\ \square & \square \end{array} = \triangle \triangle$ , then  $\begin{array}{cc} \square & \square \\ \square & \square \\ \square & \square \end{array}$   
is equal to how many triangles?

- $\begin{array}{cc} \triangle & \triangle \\ \triangle & \triangle \end{array}$
- $\begin{array}{cc} \triangle & \triangle \end{array}$
- $\begin{array}{ccc} \triangle & \triangle & \triangle \\ \triangle & \triangle & \triangle \end{array}$
- $\begin{array}{ccc} \triangle & \triangle & \triangle \end{array}$

### 24.A Classification and Logical Reasoning

Jeremy, Bob and Don each picked one of the cards shown below.

- Jeremy's card has more white squares than Don's card.
- Bob's card has more total squares than Jeremy's card.



Which of these statements is true about the number of squares on the boys' cards?

- Bob's card has 2 white squares.
- Bob's card has 5 black squares.
- Jeremy's card has a total of 5 squares.
- Jeremy's card has a total of 6 squares.

<b>INTEGRATED UNDERSTANDINGS</b>
----------------------------------

<b>25 Mathematical Applications</b>
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Five students are raising money by participating in a walk-a-thon. The number of dollars they will earn for each mile they walk is shown in the table below.

**Walk-a-thon**

Student	Dollars Earned For Each Mile Walked	Miles Walked	Total Dollars Earned
Mike	\$2		
Kristen	\$4		
Troy	\$7		
Emily	\$3		
Andrea	\$5		
<b>Total:</b>			

Complete the table above.

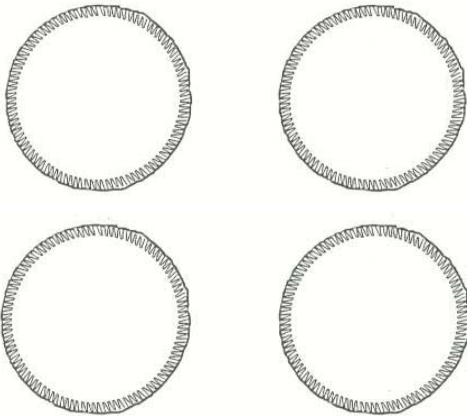
- Each student must walk at least 1 mile.
- The total number of dollars earned must be exactly \$90.
- Include the number of miles walked and the total dollars earned.

## Connecticut Mastery Test – 4<sup>th</sup> Generation Mathematics Grade 5 Sample Items

### NUMERICAL AND PROPORTIONAL REASONING

#### 2.C Pictorial Representations of Numbers

Shade in  $3\frac{2}{3}$  of the pies.



#### 8.A Computation with Fractions

$$\begin{array}{r} 2\frac{1}{6} \\ + 3\frac{4}{6} \\ \hline \end{array}$$

- $6\frac{5}{6}$   
  $5\frac{5}{6}$   
  $5\frac{5}{12}$   
  $1\frac{1}{2}$

#### 4.A Order, Magnitude and Rounding of Numbers

Julio made this table to show the number of visitors at 4 different beaches during one year.

Beach Visitors	
Beach	Number of Visitors
Alligator Point	12,982
Port Bella	12,173
St. Joe's Island	13,104
Tucker's Sound	12,203

Which beach has **less** than 12,200 visitors?

- Alligator Point  
 Port Bella  
 St. Joe's Island  
 Tucker's Sound

#### 10.B Numerical Estimation Strategies

Ms. Harper's 5<sup>th</sup> grade class read 2,803 pages one month and 3,745 pages the next month. She estimated the total pages for both months by adding 3,000 and 4,000. Would her **estimate** be more or less than the actual answer?

- less**, because she rounded both numbers up  
 **more**, because she rounded both numbers up  
 **less**, because she rounded both numbers down  
 **more**, because she rounded both numbers down

**11.A Estimating Solutions to Problems**

Keegan's mother bought groceries for a cookout. She spent \$103 and gave the clerk \$150. Which is a reasonable **estimate** of the change she received?

- a little more than \$40
- a little less than \$40
- a little more than \$50
- a little less than \$50

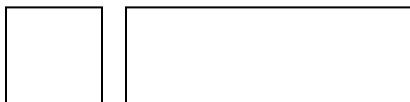
**16.C Customary and Metric Measures**

Which unit is **best** to use for measuring the length of a student's desk?

- grams
- centimeters
- miles
- kilometer

**GEOMETRY AND MEASUREMENT****15.A Approximating Measures**

If the area of small rectangle is 4 square centimeters, **about** how many square centimeters is the large rectangle?



- 4 centimeters
- 8 centimeters
- 12 centimeters
- 16 centimeters

**WORKING WITH DATA: PROBABILITY AND STATISTICS**

**19.B Tables, Graphs, and Charts**

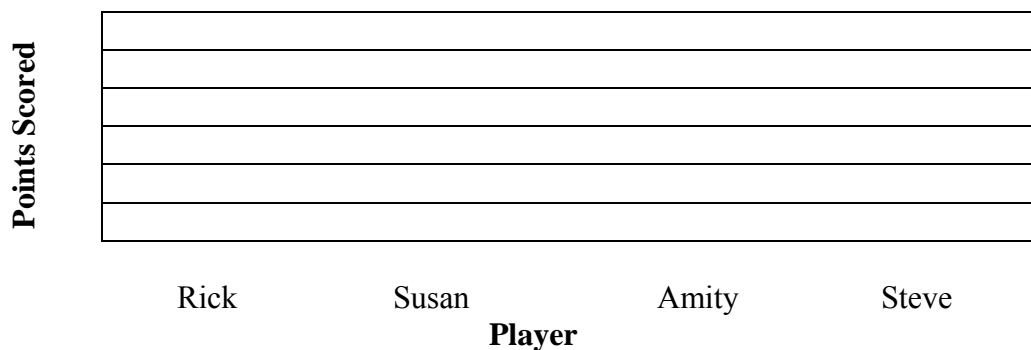
The table below shows how many points four players on the basketball team scored.

**Points Scored by Players**

Player	Points Scored
Rick	5
Susan	15
Amity	10
Steve	25

Label and complete a bar graph below to show the same information as in the table. Do not **shade** the bars.

**Points Scored by Players**



**21.A Probability**

Megan has a package of fruit snacks. Her package contains 3 red, 2 blue, 1 orange, and 1 green. If she picks one **without looking**, what is the probability that the fruit snack she picks will be blue?

- 1 out of 7
- 2 out of 7
- 3 out of 7
- 5 out of 7

<b>ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS</b>
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<b>22.B Patterns</b>
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The pattern below is missing a number.

77, 69, 61, 53, 45, ?, 29

What number is missing from the pattern?

**Answer** \_\_\_\_\_

Explain why you think this is the missing number.

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<b>23.A Algebraic Concepts</b>
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What is the value of  $n$  in this equation?

$$8 = 56 \div n$$

- 7  
 64  
 408  
 448

<b>24.A Classification and Logical Reasoning</b>
--

Liam had to solve this problem in math class.

- The first digit of a 3-digit number is 1 less than the second digit.
- The third digit of a 3-digit number is double the second digit.
- The third digit is 8.

What is the 3-digit number?

- 548  
 438  
 348  
 238

## INTEGRATED UNDERSTANDINGS

### 25 Mathematical Applications

You are going to have a Fourth of July picnic for your family. You estimate that:

- 25 people will have 2 hamburgers and 2 rolls each;
- 15 people will have 1 hamburger and 1 roll each;
- 20 people will have 1 hamburger and no roll each.

Hamburgers and rolls are sold two ways each:

Hamburgers	Rolls
8 for \$1.75	6 rolls for \$0.75
12 for \$2.15	18 rolls for \$1.80

Use this information to order enough hamburgers and rolls for the people coming to your picnic. Show how many packages of each size of hamburgers and rolls you will buy. Compute the final cost of all the items. Show how you arrived at your answers

ITEMS	Number of Packages	Cost
8 hamburgers/\$1.75		
12 hamburgers/\$2.15		
6 rolls/\$0.75		
18 rolls/\$1.80		

Total Cost: \_\_\_\_\_

## Connecticut Mastery Test – 4<sup>th</sup> Generation Mathematics Grade 6 Sample Items

### NUMERICAL AND PROPORTIONAL REASONING

#### 1.C Place Value

In which number does the 2 have the **least** value?

- 2954
- 3286
- 6125
- 9052

#### 3.B Equivalent Fractions, Decimals, and Percents

Which fraction means the same as 0.5?

- $\frac{1}{10}$
- $\frac{1}{5}$
- $\frac{1}{2}$
- $\frac{5}{100}$

#### 7.A Computations with Whole Numbers and Decimals

$$1170 + 790 =$$

0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

#### 10.B Numerical Estimation Strategies

To estimate the product of  $187.3 \times 29.4$ , Deirdre multiplied  $190 \times 30$ . Would Deirdre's **estimate** be **more** or **less** than the actual product?

- less**, because she rounded both numbers up
- more**, because she rounded both numbers up
- less**, because she rounded both numbers down
- more**, because she rounded both numbers down

### 11.B Estimating Solutions to Problems

Tillman wants to estimate the product of  $7\frac{3}{4}$  and 5. What is a good estimate of the answer?

**Answer** \_\_\_\_\_

Show or explain how you used estimation to determine your answer.

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## GEOMETRY AND MEASUREMENT

### 15.A Approximating Measures



What is the approximate measure of the angle shown above?

- 100°  
 110°  
 170°  
 190°

### 16.A Customary and Metric Measures

Anna picked 8 pints of strawberries. How many **quarts** of strawberries did she pick?

2 pints = 1 quart

					.		
0	0	0	0	0		0	0
1	1	1	1	1		1	1
2	2	2	2	2		2	2
3	3	3	3	3		3	3
4	4	4	4	4		4	4
5	5	5	5	5		5	5
6	6	6	6	6		6	6
7	7	7	7	7		7	7
8	8	8	8	8		8	8
9	9	9	9	9		9	9

**WORKING WITH DATA: PROBABILITY AND STATISTICS****19.A Tables, Graph, and Charts**

The stem-and-leaf plot shows the number of videos rented by sixth grade students.

**Number of Videos Rented**

0	1 3 1 4 6 8 9
1	0 3 1 4 2 0
2	1 2 0 3
3	1 0 2

How many sixth-graders rented more than 10 videos?

- 10
- 11
- 12
- 13

**Strand 21.B Probability**

The table below shows the number of colored marbles Maury has in his collection.

**Marble Collection**

<b>Color</b>	<b>Number of Marbles</b>
Purple	13
Blue	34
Red	30
Green	23

If Maury picks a marble without looking, what is the probability he will pick a blue marble?

**Answer** \_\_\_\_\_

Show your work or explain how you determined your answer.

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**ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS****Strand 22.B Patterns**

The shapes below follow a pattern.



In the space below, draw the next shape in the pattern.

Explain why the shape you drew is the next shape in the pattern.

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**23.B Algebraic Concepts**

Solve this equation for  $n$ .

$$244 \times n = 3,172$$

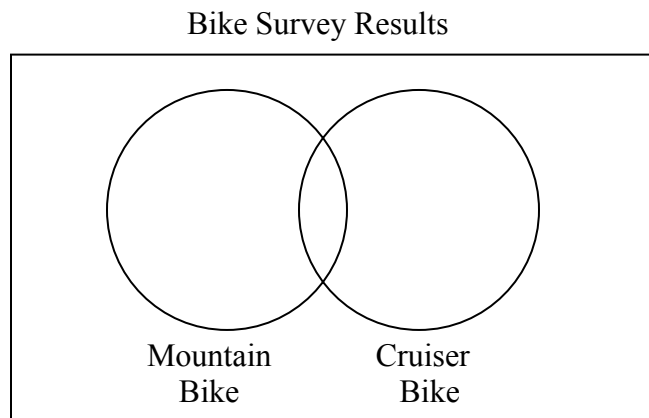
- 10
- 13
- 17
- 24

**Strand 24.B Classification and Logical Reasoning**

A bike store surveyed customers about their favorite type of bike to ride. Customers could choose either mountain bikes or cruiser bikes. The store reported whether their customers liked mountain bikes, cruiser bikes, or both. 45 customers participated in the survey.

- 28 people liked cruisers
- 26 people liked mountain bikes
- 9 people liked both mountain bikes and cruiser bikes

Complete the Venn diagram to help you solve the problem.



How many customers liked only cruiser bikes?

Answer \_\_\_\_\_

How many customers liked only mountain bikes?

Answer \_\_\_\_\_

**ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS**
**Strand 25 Mathematical Applications**

A local car dealership sold a total of 1320 cars last year. Complete the table below that shows the amount of cars the dealership could have sold each month assuming that:

- The dealership sold exactly 210 cars in January and exactly 200 cars in February.
- The dealership sold at least 40 cars in every other month.
- The dealership did not sell more than 250 cars in any month during the year.
- The dealership sold the most cars in August.

**Monthly Car Sales**

Month	Total Sales
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

The car dealership made a profit of 450 dollars for every car sold. Using the total sales from the chart above, calculate the profit of the dealership during November and December.

Show how you determined your answer in the space provided below.

**Answer** \_\_\_\_\_



**9.D Solve Word Problems**

Matt worked in a library and earned \$5.40 per hour. He usually earns \$324 per month. However, last month he worked 30 minutes extra for each 20 days. How much **more** did he earn last month? \_\_\_\_\_

Show your work or explain how you found your answer.

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**10.B Numerical Estimation Strategies**

To estimate the sum of \$2.95 and \$17.93, Mason added  $\$3 + \$18$ . Would Mason's estimate be more or less than the actual sum?

- MORE, because Mason rounded both numbers up
- MORE, because Mason rounded both numbers down
- LESS, because Mason rounded both numbers up
- LESS, because Mason rounded both numbers down

### 11.B Estimating Solutions to Problems

Javier sold 583 spirit flags for the homecoming game. Each flag sold for \$2.75. Javier predicted that he made a little less than \$1800.00 selling spirit flags. Explain how Javier can use **estimation** to decide if his prediction was **reasonable**.

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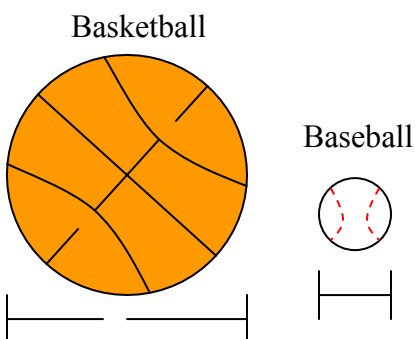


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### GEOMETRY AND MEASUREMENT

#### 15.A Approximating measures

Look at the baseball and basketball below.

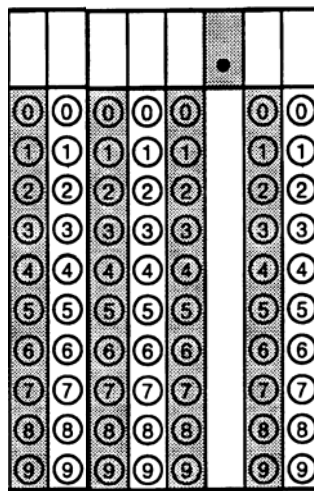


The diameter of the baseball is 7 centimeters. Which is the **best** approximation of the **diameter**, in centimeters, of the basketball?

- 14
- 21
- 28
- 35

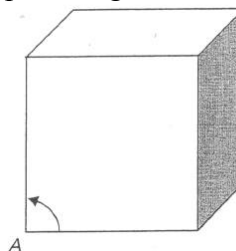
#### 16.D Customary and Metric Measures

Karen filled a pitcher with 1800 milliliters of water. How many liters is that?



#### 17.A Geometric Shapes and Properties

Identify the type of angle indicate below.



- Right angle
- Isosceles angle
- Acute angle
- Obtuse angle

**WORKING WITH DATA:  
PROBABILITY AND STATISTICS**

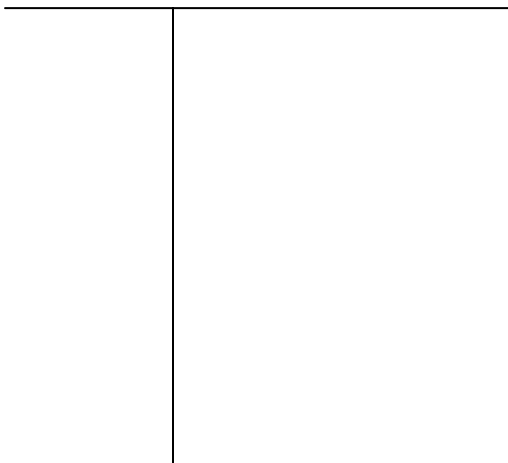
**19.B Tables, Graphs and Charts**

The table below shows the prices of new bicycle tires.

39	43	23	34	33	42
29	32	45	34	37	38

Complete the **stem-and-leaf** plot to show the same information.

**Bicycle Tire Prices**



**20.C Statistics and Data Analysis**

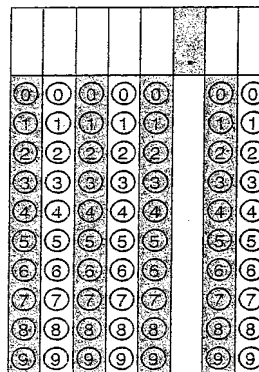
This **stem-and-leaf** plot shows the number of scooters sold for several months

**Scooters Sold**

0	3 3 5 7
1	4 8 9 9
2	0 0 1 3 4 4 7 7 8 8 8 9
3	2 2 3 4 7 7 8
4	5 6 6

1 | 9 represents 19 scooters

Which number is the **mode** in this plot?



**21.A Probability**

There were 2 blue beads and 3 yellow beads in a bag. Jill took out a bead without looking and then put it back in the bag. She then took out another bead without looking. What is the probability that Jill picked a yellow bead both times?

- $\frac{2}{5}$         $\frac{4}{25}$   
  $\frac{3}{5}$         $\frac{9}{25}$

**ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS**
**22.B Patterns**

The numbers below follow a pattern.

15, 32, 49, 66, ?

What is the next term in the pattern?

**Answer** \_\_\_\_\_

Show your work or explain how you determined your answer.

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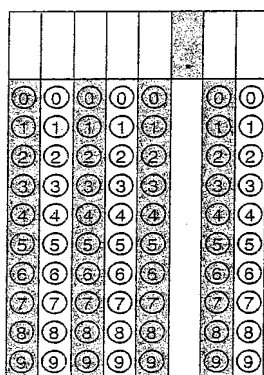


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**23.A Algebraic Concepts**

What value of  $x$  makes this equation true?

$$92 = 2x$$


**23.B Algebraic Concepts**

$$54 - 36 \div 9 =$$

- 50  
 18  
 4  
 2

65

**24.A Classification and Logical Reasoning**

Samantha, Joe, and Carl were the only three runners in a race. They each finished the race at different times. In how many different ways can first and second place ribbons be awarded to these three runners?

- 2  
 4  
 6  
 12



**Connecticut Mastery Test – 4<sup>th</sup> Generation  
Mathematics Grade 8 Sample Items**

**NUMERICAL AND PROPORTIONAL REASONING**

**1.A Place Value**

Which number is equal to  $3.02 \times 10^4$ ?

- 0.000302
- 0.0302
- 30,200
- 3,020,000

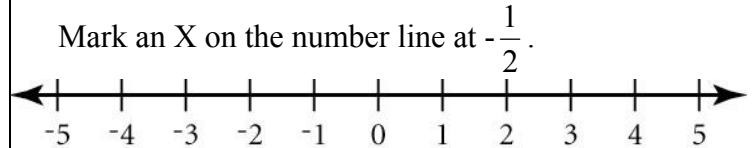
**3.B Equivalent Fractions, Decimals and Percents**

At a school bake sale,  $\frac{2}{5}$  of the number of pies sold were apple pies. Which percent is equal to  $\frac{2}{5}$ ?

- 10%
- 20%
- 40%
- 60%

**4.D Order, Magnitude and Rounding of Numbers**

Mark an X on the number line at  $-\frac{1}{2}$ .



**5.B Models for Operations**

Write a story problem that can be solved using the following equation.

$$7.20 + 25.35 = y$$

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**7.A Computation with Whole Numbers and Decimals**

$$5,006.2 - 2,904.88 =$$

					.		
0	0	0	0	0		0	0
1	1	1	1	1		1	1
2	2	2	2	2		2	2
3	3	3	3	3		3	3
4	4	4	4	4		4	4
5	5	5	5	5		5	5
6	6	6	6	6		6	6
7	7	7	7	7		7	7
8	8	8	8	8		8	8
9	9	9	9	9		9	9

**8.A Computation with Fractions**

$$2\frac{1}{6} + 1\frac{3}{5} =$$

- $3\frac{23}{30}$   
  $3\frac{18}{30}$   
  $3\frac{4}{30}$   
  $3\frac{4}{11}$

### 9.B Solve Word Problems

Kwan went shopping for new clothes. He bought 2 shirts for \$18.95 each and 3 pairs of shorts for \$15.50 each. If he gave the cashier \$100, how much change should he get back?

\$

					.		
0	0	0	0	0		0	0
1	1	1	1	1		1	1
2	2	2	2	2		2	2
3	3	3	3	3		3	3
4	4	4	4	4		4	4
5	5	5	5	5		5	5
6	6	6	6	6		6	6
7	7	7	7	7		7	7
8	8	8	8	8		8	8
9	9	9	9	9		9	9

### 11.A Estimating Solutions to Problems

During the school year, Murphy received scores of 87, 93, 81, 98, and 92 on his English papers. He added the scores together to determine his total score.

What is a reasonable **estimate** of Murphy's total score?

**Answer** \_\_\_\_\_

Show or explain how you made your **estimate**.

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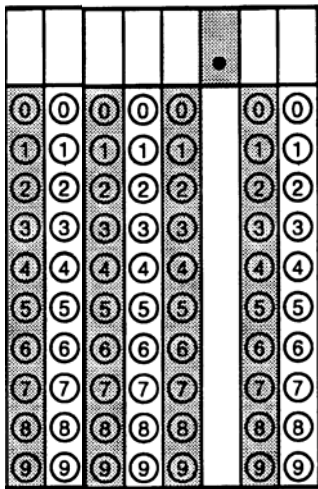
**12.B Ratios and Proportions**

The ratio of pitchers to catchers at a baseball camp was 11:4. If there were 64 catchers, how many pitchers were at the camp?

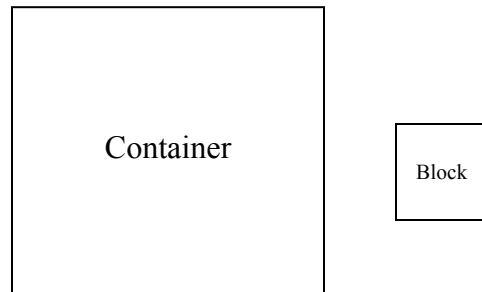
- 44  
 64  
 176  
 256

**13.A Computation with Percents**

What is 76% of 56?

**GEOMETRY AND MEASUREMENT****15.A Approximating Measures**

The large square below is the base of a container. The small square is the base of a block.



Pablo filled the container evenly to the top with blocks stacked 4 high. Which is the **best** approximation for the number of blocks needed to fill the container evenly?

- 9  
 16  
 36  
 64

**16.A Customary and Metric Measures**

Eli's car weighs 3,350 pounds. How many **tons** does the car weigh?

- 0.1675  
 0.675  
 1.675  
 16.75

### 17.B Geometric Shapes and Properties

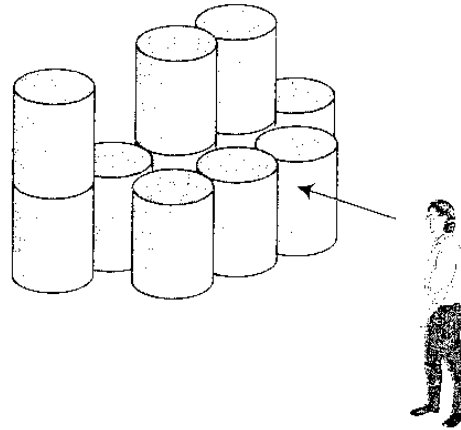
Jorge drew a quadrilateral with all equal sides but with **no** right angles. In the space below, draw the shape.

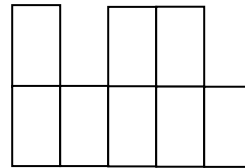
What is another geometric name for the quadrilateral you drew?

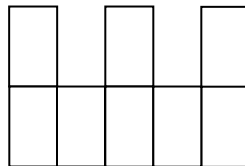
Answer \_\_\_\_\_

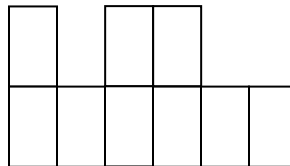
### 18.F Spatial Relationships

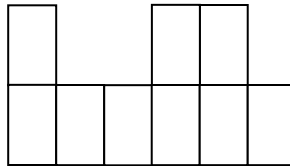
What view of the barrels is seen by the person in the picture?











**WORKING WITH DATA: PROBABILITY AND STATISTICS**

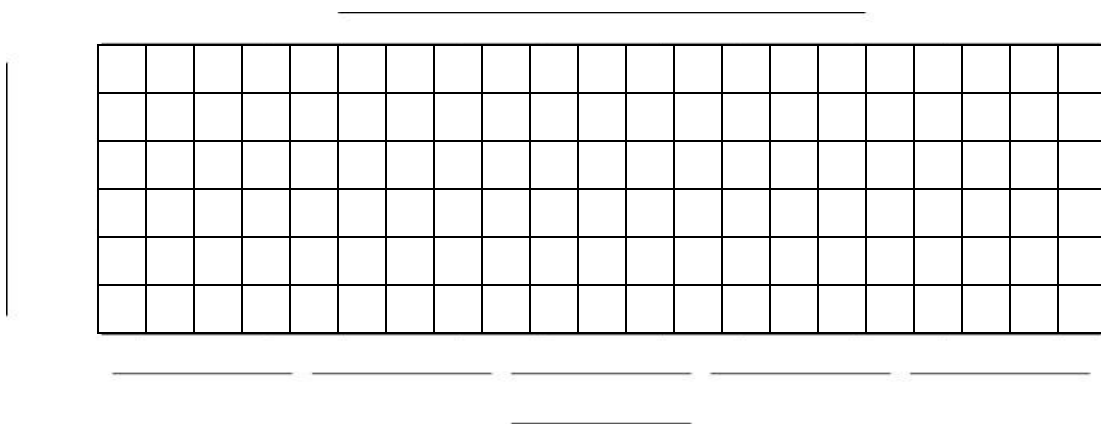
**19.B Tables, Graphs, and Charts**

The table shows the heights of 5 basketball players.

**Heights of  
Basketball Players**

Name	Height (in inches)
Harry	78
Fred	72
Mark	76
Justin	77
Kevin	77

Label and complete the **bar graph** to show the same information. Do **not** shade the bars.



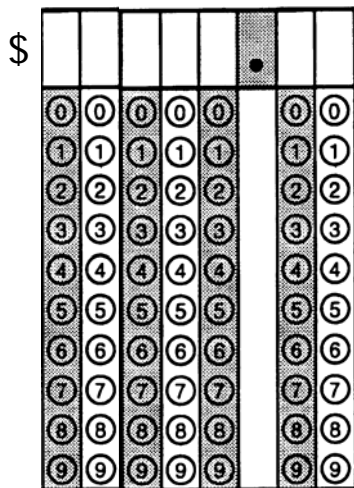
### 20.C Statistics and Data Analysis

Louis works at a supermarket. His earnings from his last four paychecks are shown below.

\$187.53      \$168.76

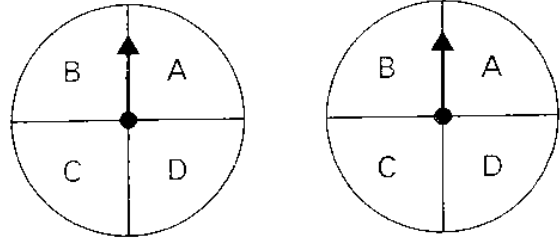
\$205.64      \$252.71

What is the **mean** of Louis' earnings from these four paychecks?



### 21.A Probability

The spinners below are each divided into 4 equal sections



If each spinner is spun once, what is the probability that the arrows will **both** land on A?

- $\frac{1}{4}$   
  $\frac{2}{4}$   
  $\frac{2}{16}$   
  $\frac{1}{16}$

**ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS**
**22.B Patterns**

The numbers below follow a pattern.

3, 7, 15, 31, 63,   ?  , 255

What number is missing from the pattern?

**Answer** \_\_\_\_\_

Show your work or explain how you determined your answer.

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**23.A Algebraic Concepts**

What is the value of  $x$  in this equation?

$$2x - 4.01 = 7.13$$

0	0	0	0	0		0	0	
1	1	1	1	1		1	1	
2	2	2	2	2		2	2	
3	3	3	3	3		3	3	
4	4	4	4	4		4	4	
5	5	5	5	5		5	5	
6	6	6	6	6		6	6	
7	7	7	7	7		7	7	
8	8	8	8	8		8	8	
9	9	9	9	9		9	9	

**24.B Classification and Logical Reasoning**

Mrs. Donovan has 3 children. The sum of their ages is 14. The product of their ages is 36. The oldest is **more** than 2 times the age of the child in the middle.

What are the ages of each of Mrs. Donovan's children?

**Answer** \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_

Show your work or explain how you determined your answer.

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**INTEGRATED UNDERSTANDINGS****25 Mathematical Applications**

Norma made quilts and sold them at a craft show. The cost of fabric for each quilt was \$13.55. She sold each quilt for \$35. The number of quilts that Norma sold is represented by  $n$ .

Write an expression that represents the amount of money Norma made as profit if she sold  $n$  quilts.

**Answer** \_\_\_\_\_

Norma wants to make a total profit of \$200. What is the **least** number of quilts she must sell?

**Answer** \_\_\_\_\_

Show your work or explain how you determined your answer.

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