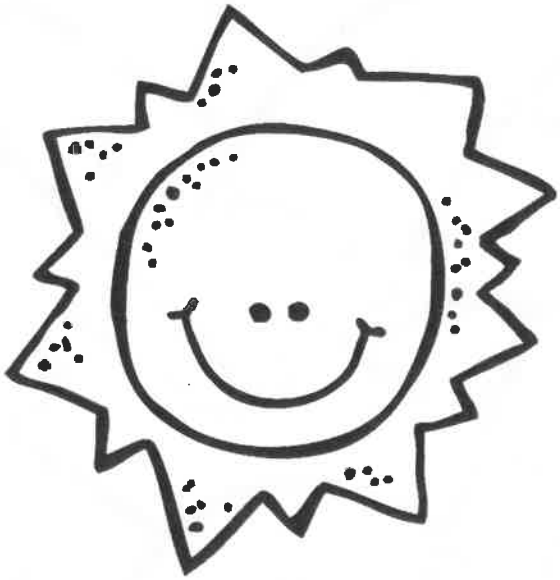
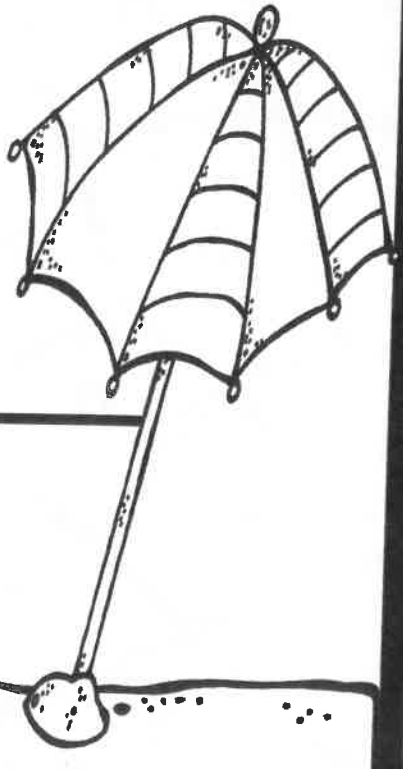
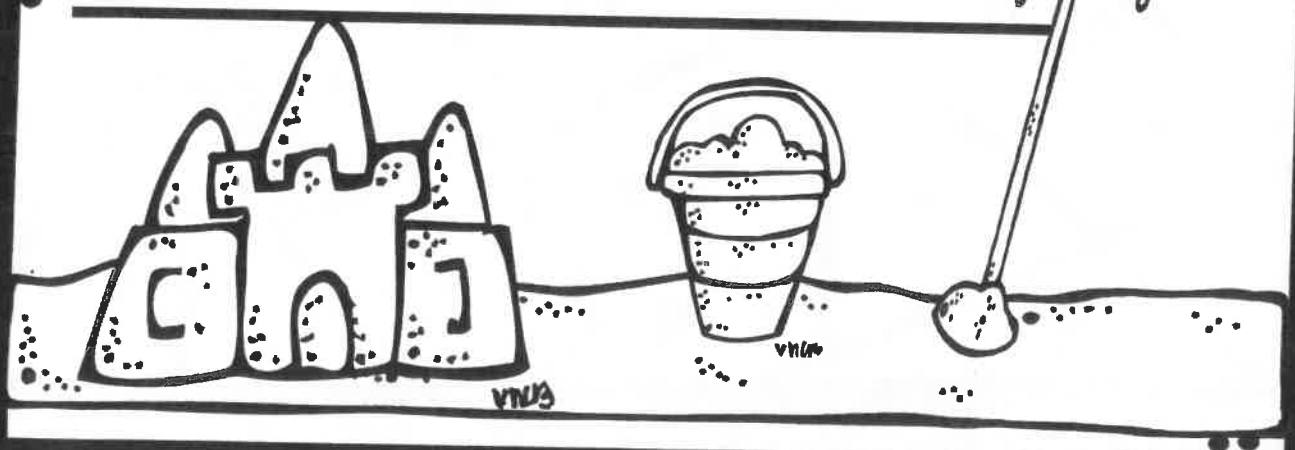
Summer Math Packet

8th grade



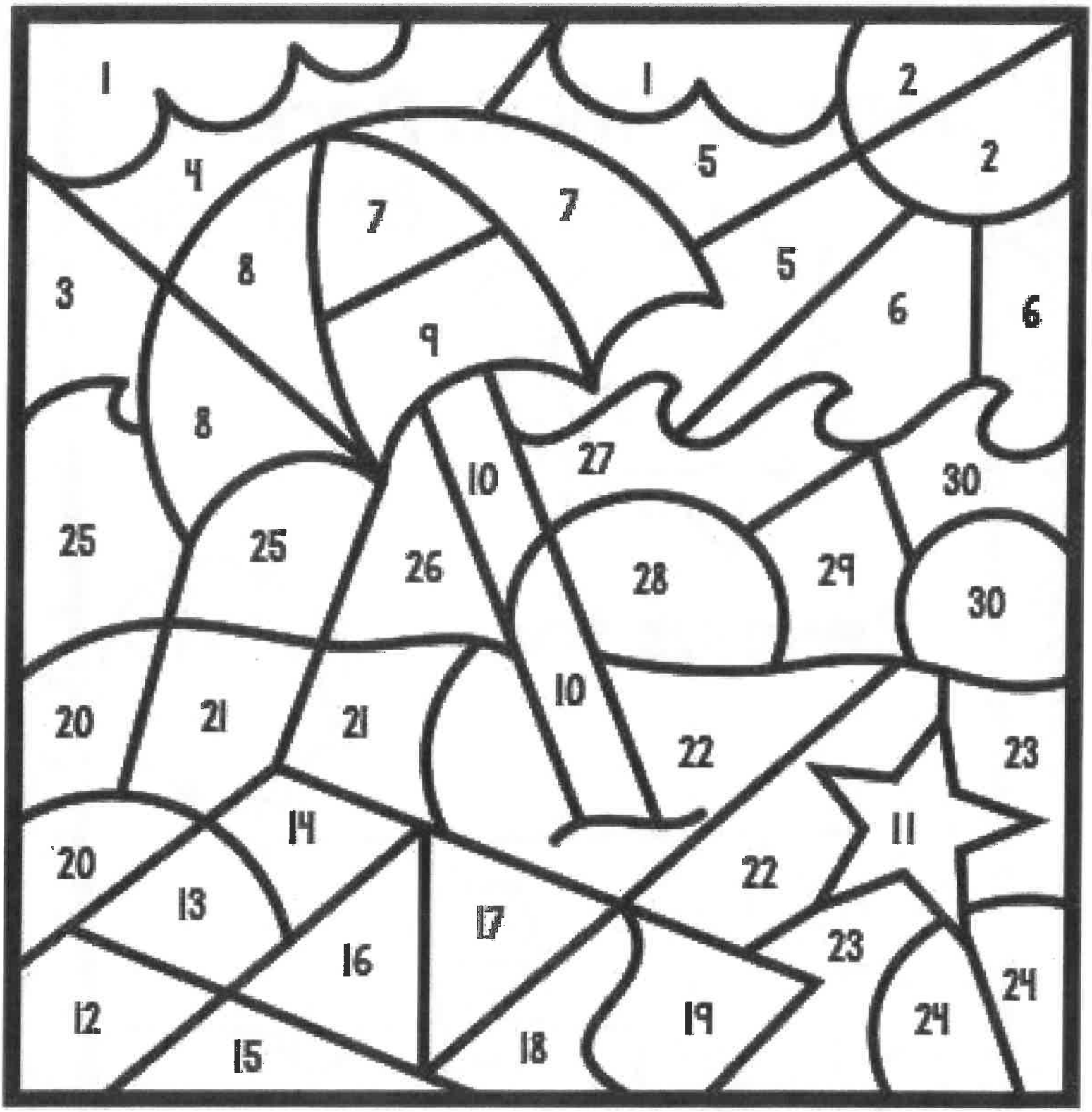
Belongs to:





MARKING YOUR PROGRESS

Directions: After completing a page in this packet, color the day in to reveal a Summer Beach Picture at the completion of your summer math packet.



COLOR CODE:

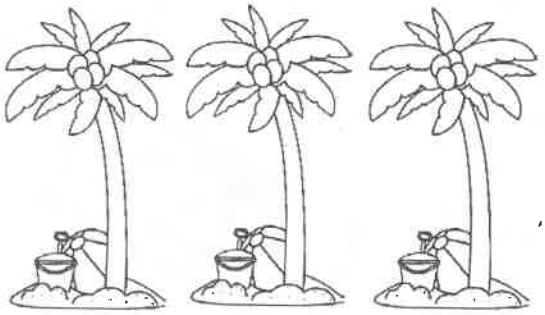
1-GRAY, 2-YELLOW, 3-6-LIGHT BLUE, 7-9-RED, 10-BROWN, 11-ORANGE, 12-19-PURPLE, 20-24-LIGHT BROWN, 25-30- DARK BLUE

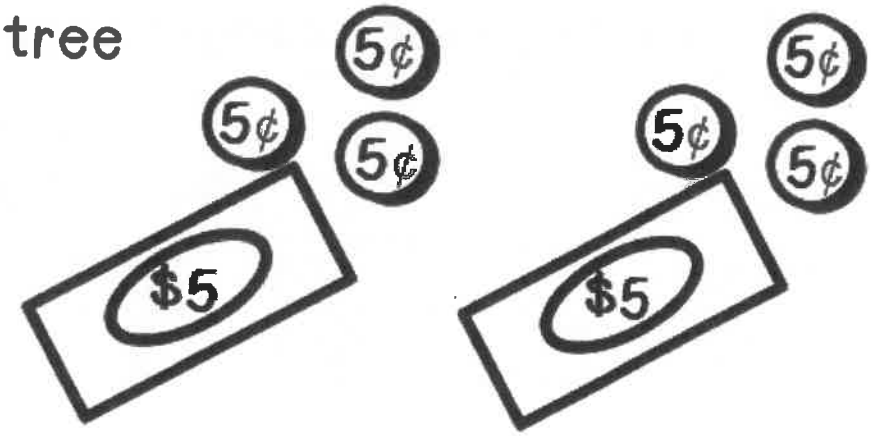
#1

Unit Rates

Directions: Calculate how much each one item cost (unit rate) based on the number of items and money spent.

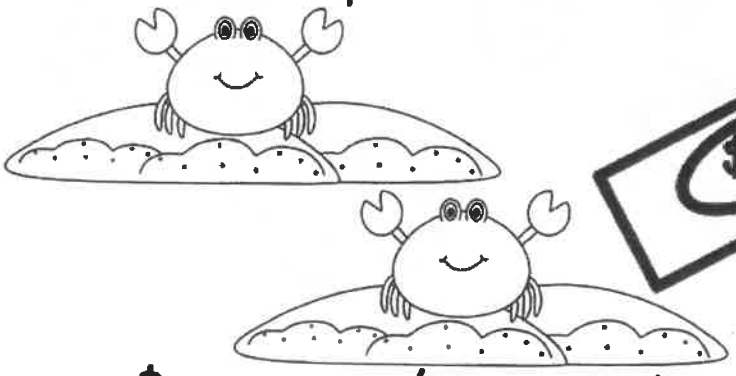
1. Price per Palm tree

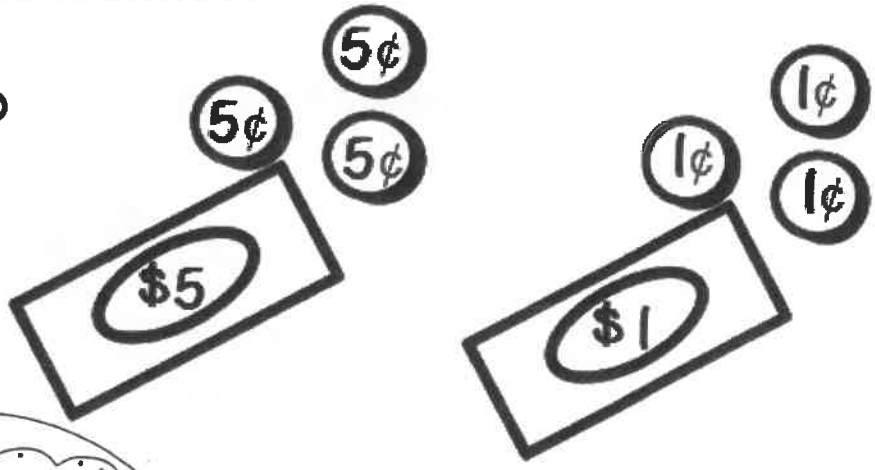




$ _____ / per palm tree

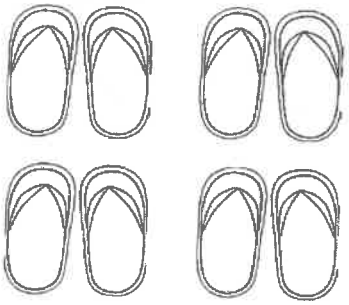
2. Price per Crab

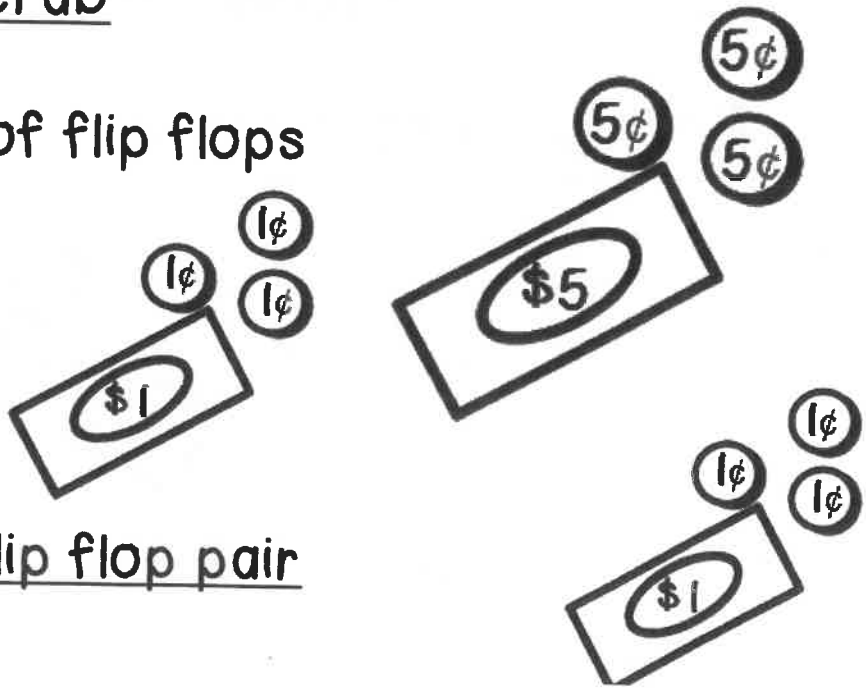




$ _____ / per crab

3. Price per pair of flip flops





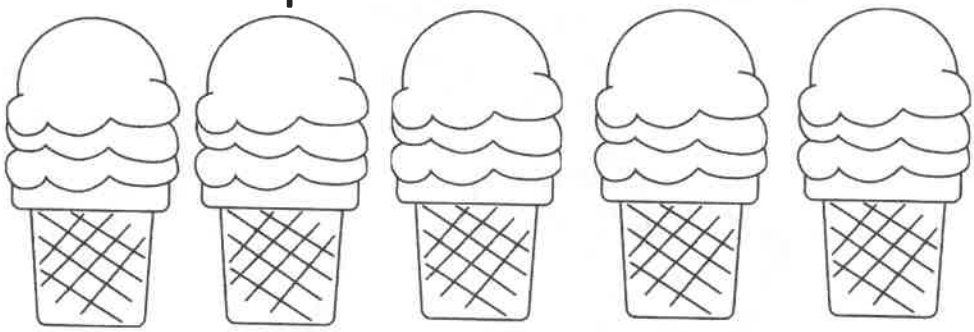
$ _____ / per flip flop pair

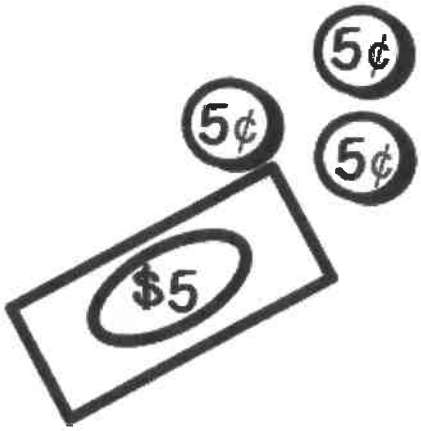
#2

Unit Rates

Directions: Calculate how much each one item cost (unit rate) based on the number of items and money spent.

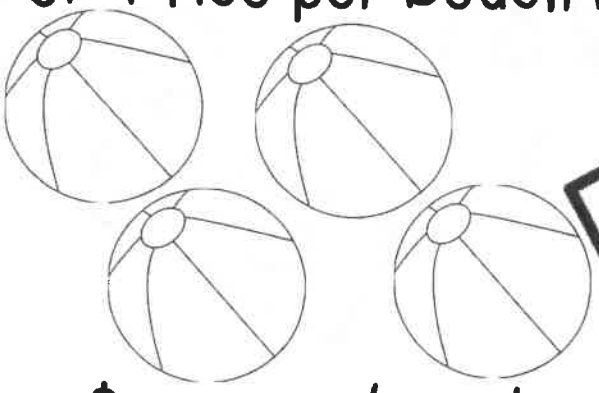
4. Price per ice cream cone

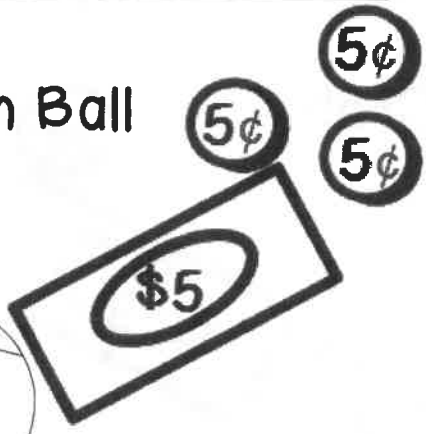


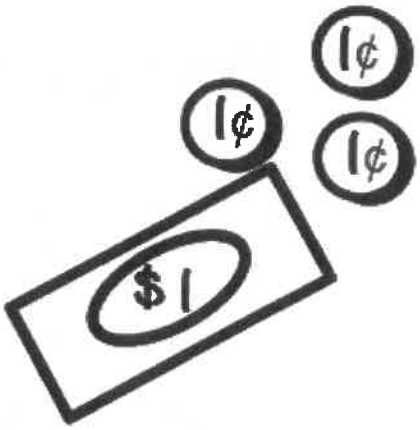


$ _____ / per ice cream cone

5. Price per Beach Ball

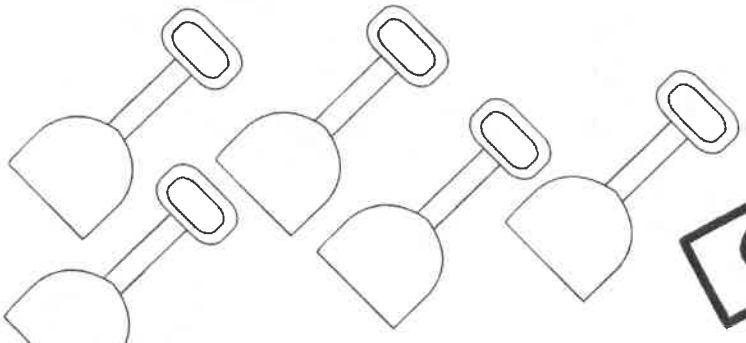


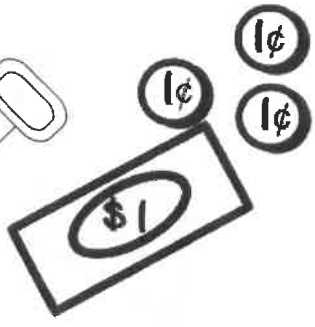


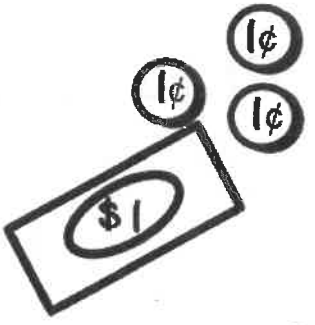


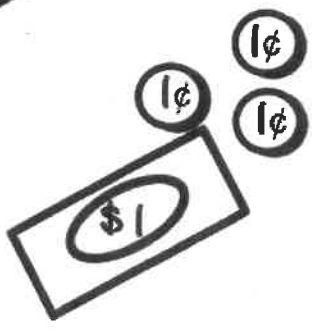
$ _____ / per beach ball

6. Price per beach shovel









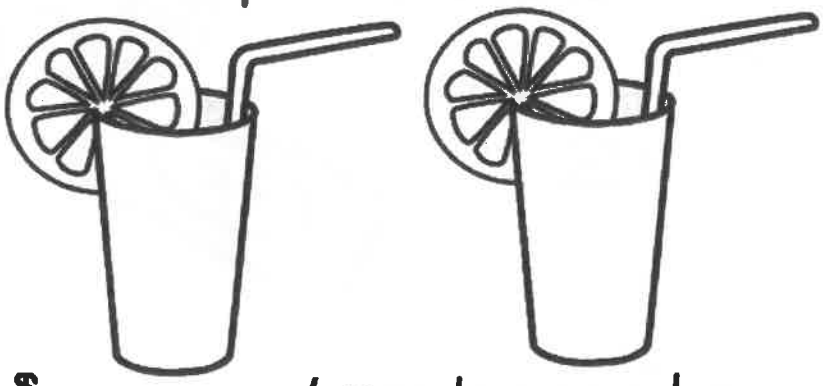
$ _____ / per beach shovel

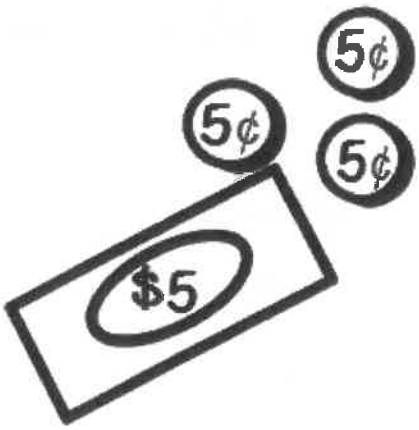
#3

Unit Rates

Directions: Calculate how much each one item cost (unit rate) based on the number of items and money spent.

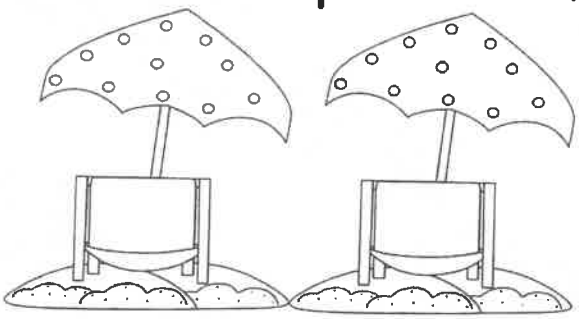
7. Price per lemonade

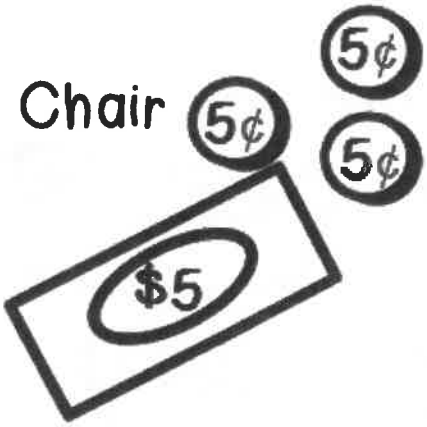


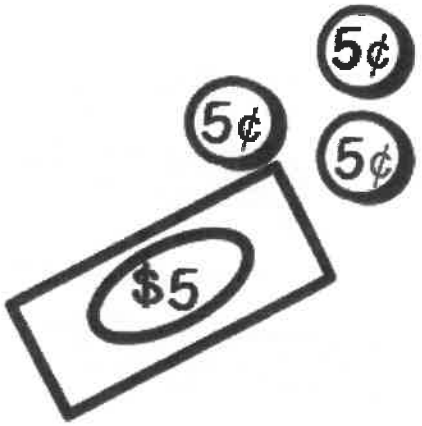


$ _____ / per lemonade

8. Price per Beach Chair

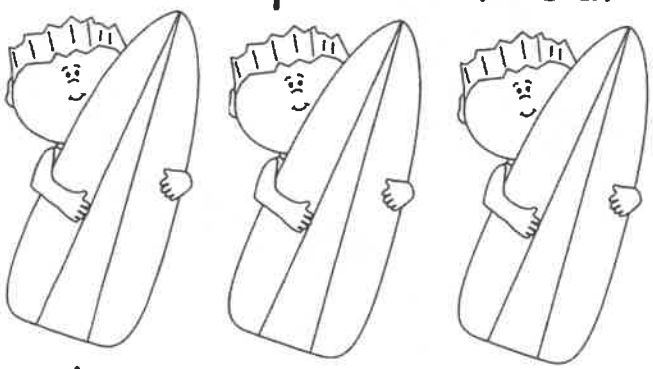


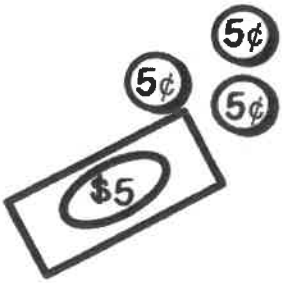


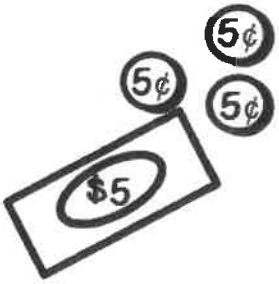


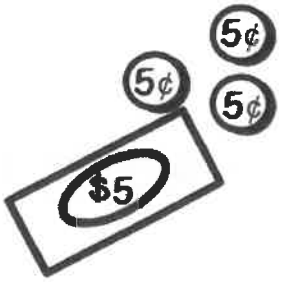
$ _____ / per Beach Chair

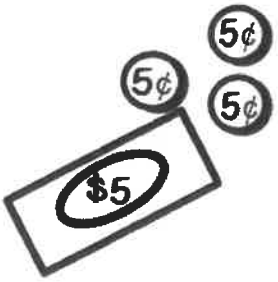
9. Price per surfboard











$ _____ / per surfboard

#4

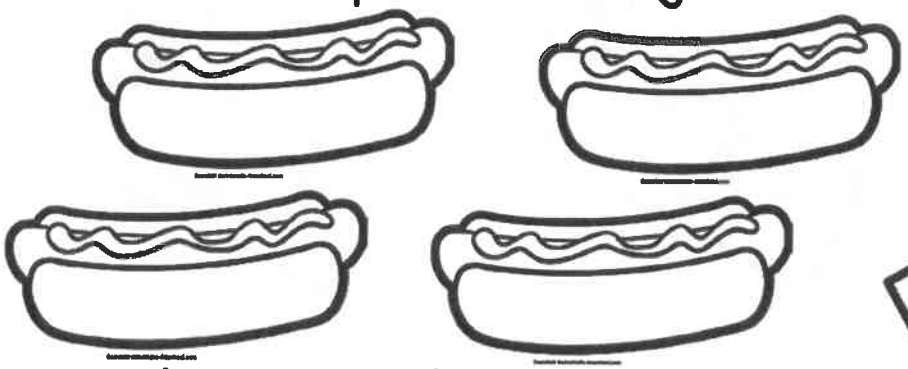
Unit Rates

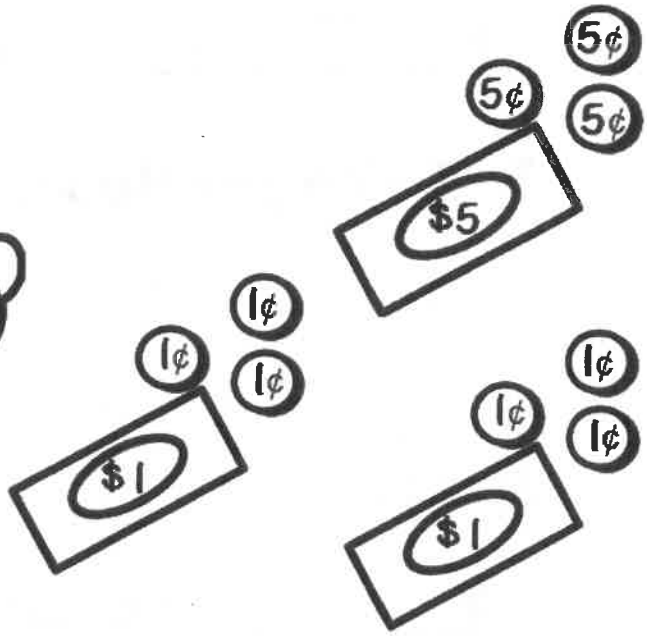
Directions: Calculate how much each one item cost (unit rate) based on the number of items and money spent.

10. Price per kite

$ _____ / per kite

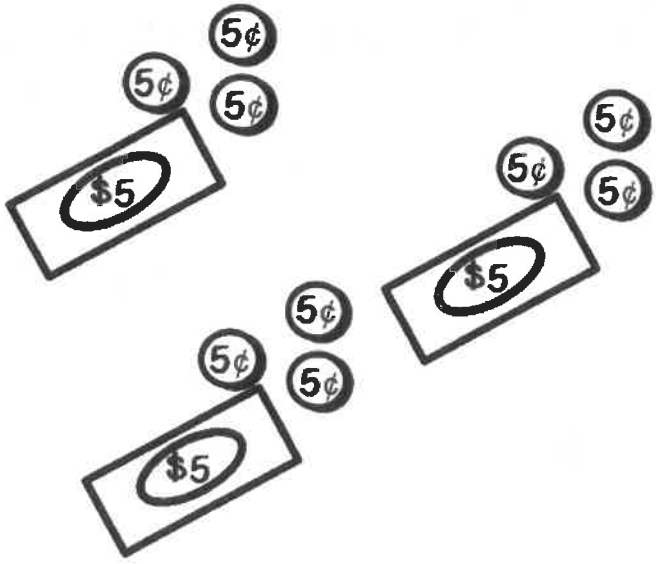
11. Price per Hot Dog





$ _____ / per Hot Dog

12. Price per Soda



$ _____ / per Soda

#5

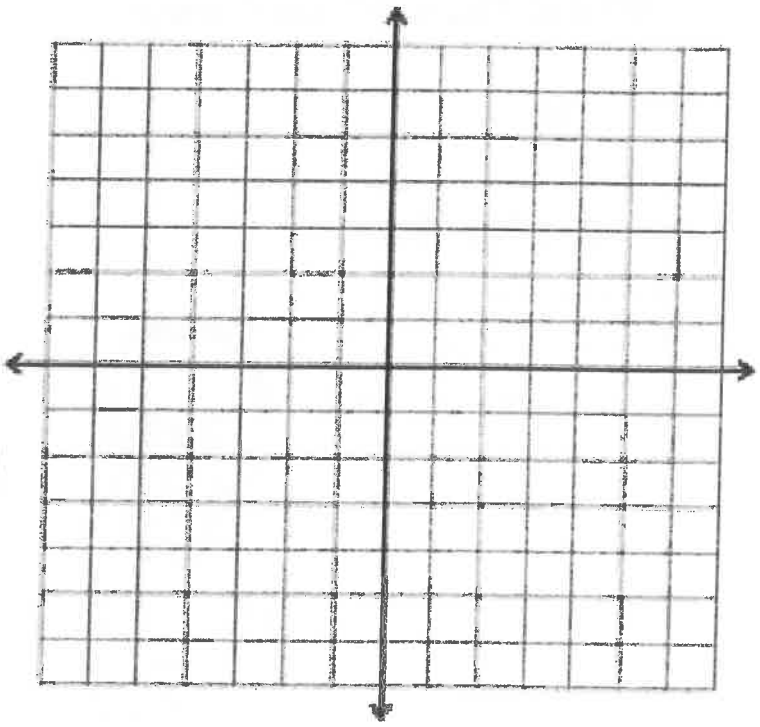
Proportional Relationships

Directions: Graph the proportional relationship and complete the function table with the graph.

1. Graph the relationship between sales and number of surfboards sold at the local surf shop.

$y = 325x - 300$

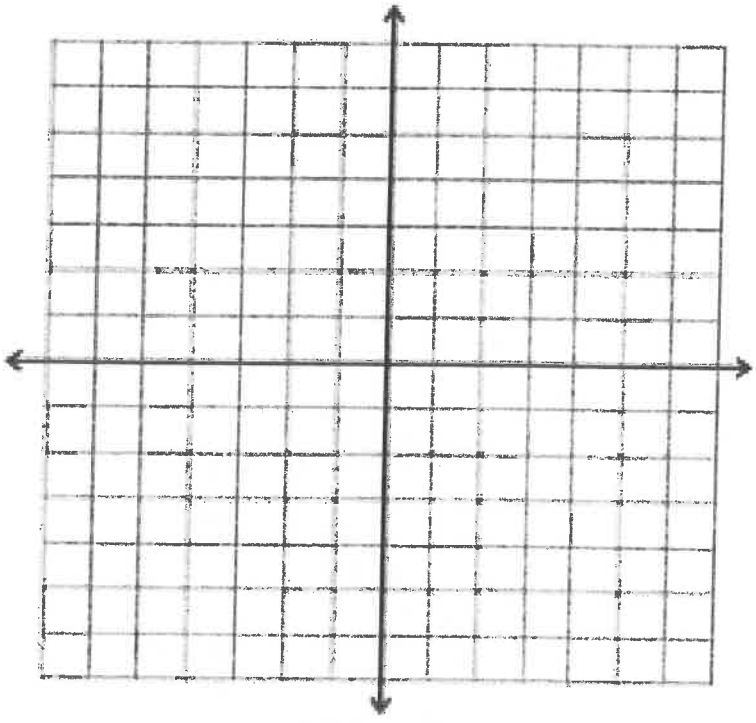
x	y



2. Graph the relationship between parking sales and number of hours parked at the beach. It costs $2 fee plus one dollar per hour to park at the beach.

$y = 1x + 2$

x	y



#6

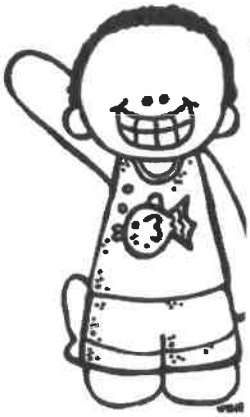
Proportional Relationships

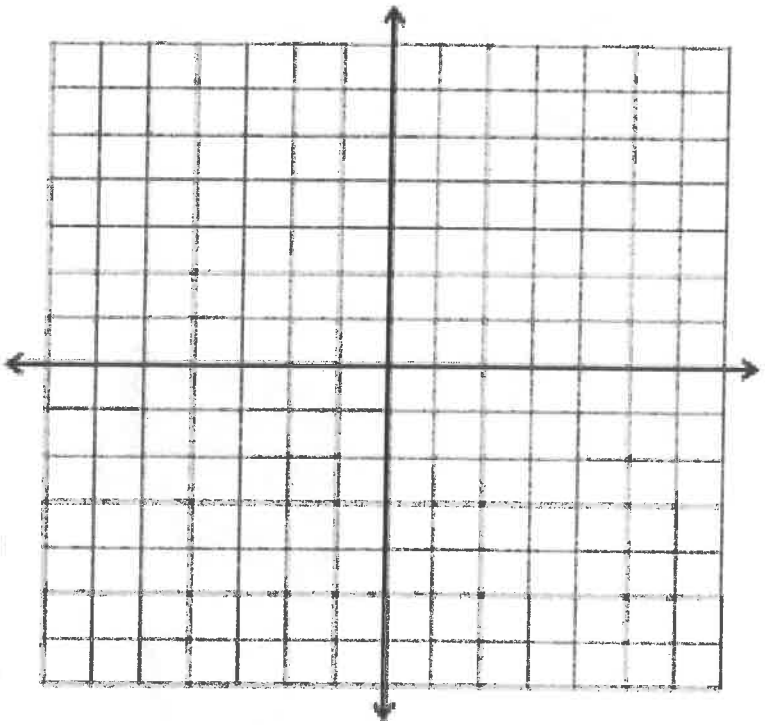
Directions: Graph the proportional relationship and complete the function table with the graph.

3. Graph the relationship between sales and number of ice creams sold at the local surf shop.

$y = 5x - 1$

x	y

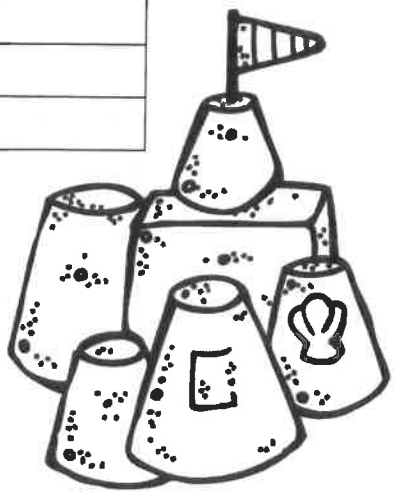


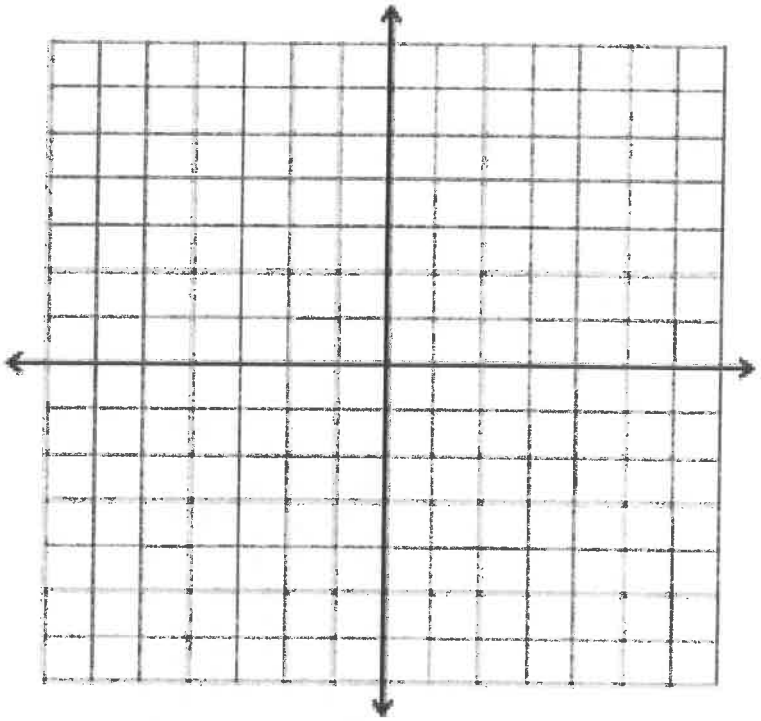


4. Graph the relationship between beach chair sales and number of hours sitting at the beach. It costs $2 fee plus $0.25 per hour to sit at the beach.

$y = 0.25x + 2$

x	y



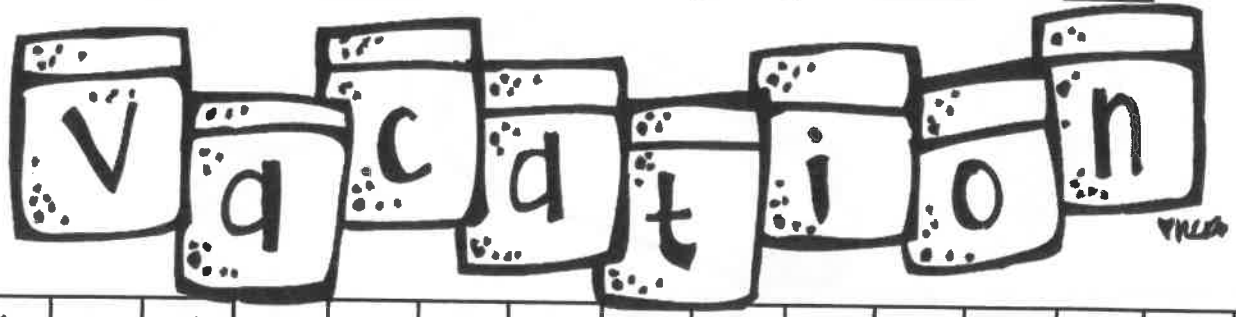


#7 Fraction Squares

Directions: Each row, column and diagonal multiply or divide up to the values shown. Fill in the rest of the grid of numbers.

2/3	x	2/3	x	2/3	=	
÷		÷		÷		
1/3	x	1	x	1/3	=	
÷		÷		÷		
1	x	1/3	x	1	=	
=		=		=		

1/4	x	1/4	x	1/4	=	
÷		÷		÷		
2/4	x	1	x	2/4	=	
÷		÷		÷		
1	x	2/4	x	1	=	
=		=		=		



2/5	x	3/5	x	1/2	=	
÷		÷		÷		
1/5	x	1	x	1/5	=	
÷		÷		÷		
1	x	1/2	x	1	=	
=		=		=		

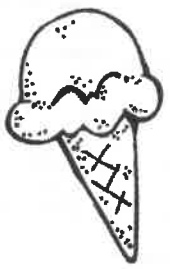
1/6	x	3/6	x	2/3	=	
÷		÷		÷		
2/6	x	1	x	2/3	=	
÷		÷		÷		
1	x	2/6	x	1	=	
=		=		=		

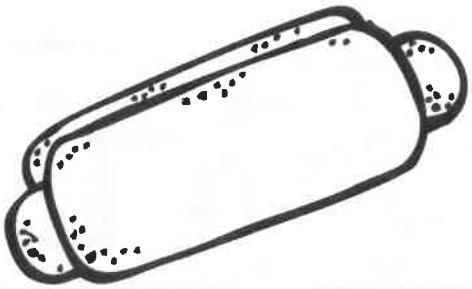
#8 Fraction Squares

Directions: Each row, column and diagonal multiply or divide up to the values shown. Fill in the rest of the grid of numbers

2/3	x	2/4	x	2/5	=	
÷		÷		÷		
1/4	x	1	x	1/4	=	
÷		÷		÷		
1	x	1/5	x	1	=	
=		=		=		

1/6	x	1/7	x	1/8	=	
÷		÷		÷		
2/7	x	1	x	2/7	=	
÷		÷		÷		
1	x	6/8	x	1	=	
=		=		=		





2/3	x	1/4	x	5/2	=	
÷		÷		÷		
1/4	x	1	x	1/2	=	
÷		÷		÷		
1	x	1/5	x	1	=	
=		=		=		

1/8	x	7/6	x	8/1	=	
÷		÷		÷		
2/7	x	1	x	2/6	=	
÷		÷		÷		
1	x	2/8	x	1	=	
=		=		=		

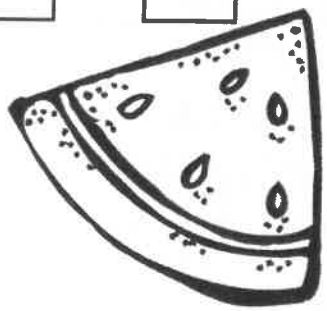
#9

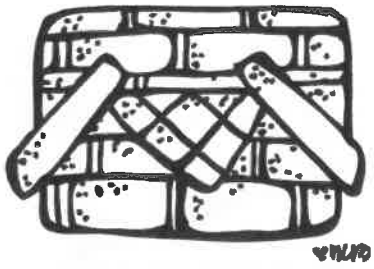
Fraction Squares

Directions: Each row, column and diagonal multiply or divide up to the values shown. Fill in the rest of the grid of numbers

3/4	x	2/5	x	1/6	=	
÷		÷		÷		
1/5	x	1	x	2/3	=	
÷		÷		÷		
1	x	4/6	x	1	=	
=		=		=		

1/8	x	2/4	x	3/6	=	
÷		÷		÷		
2/4	x	1	x	1/8	=	
÷		÷		÷		
1	x	3/6	x	1	=	
=		=		=		





3/3	x	1/3	x	2/3	=	
÷		÷		÷		
1/3	x	1	x	3/3	=	
÷		÷		÷		
1	x	2/3	x	1	=	
=		=		=		

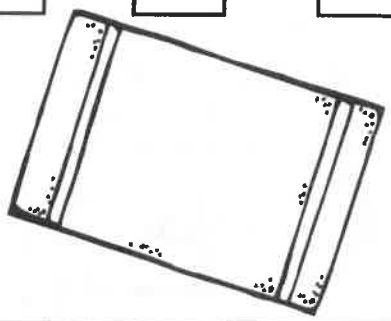
8/2	x	4/3	x	1/6	=	
÷		÷		÷		
1/6	x	1	x	4/3	=	
÷		÷		÷		
1	x	8/2	x	1	=	
=		=		=		

#10 Fraction Squares

Directions: Each row, column and diagonal multiply or divide up to the values shown. Fill in the rest of the grid of numbers

4/3	x	5/2	x	1/3	=	
÷		÷		÷		
5/2	x	1	x	4/3	=	
÷		÷		÷		
1	x	1/3	x	1	=	
=		=		=		

1/8	x	4/2	x	6/1	=	
÷		÷		÷		
4/2	x	1	x	1/8	=	
÷		÷		÷		
1	x	6/1	x	1	=	
=		=		=		



2/3	x	2/3	x	2/3	=	
÷		÷		÷		
1/3	x	1	x	1/3	=	
÷		÷		÷		
1	x	1/3	x	1	=	
=		=		=		

1/4	x	1/4	x	1/4	=	
÷		÷		÷		
2/4	x	1	x	2/4	=	
÷		÷		÷		
1	x	2/4	x	1	=	
=		=		=		

#11 Rational Numbers BINGO!

Directions: To play Decimal Bingo, solve the problems & mark off the answers in the grid. When you get five in a row, you win!

-0.45	-2.54	9.12	16.27	22.29
0.1	3.1	11.11	17.84	23.23
-0.66	5.79	FREE SPACE	-19.12	24.11
1.81	-8.69	14.14	20.63	-25.27
1.99	-9.02	15.76	22.59	29.11

1. $2.77 + 0.33 =$ _____

2. $0.11 + (-8.8) =$ _____

3. $0.33 + 1.66 =$ _____

4. $0.3 + (-0.2) =$ _____

5. $7.07 + 4.04 =$ _____

6. $-0.3 + (-0.15) =$ _____

7. $29.09 + (-6.5) =$ _____

8. $30.88 + (-6.77) =$ _____

9. $24.2 + (-6.36) =$ _____

10. $23.45 + (-1.16) =$ _____

#12

Rational Numbers BINGO!

Directions: To play Decimal Bingo, solve the problems & mark off the answers in the grid. When you get five in a row, you win!

-0.12	2.54	6.66	16.27	22.3
0.5	4.75	9.9	18.00	23.23
0.66	-3.33	FREE SPACE	19.12	15.43
-0.22	8.11	14.14	20.63	25.27
1.99	9.02	15.76	21.9	29.11

1. $1.23 + (-4.56) =$ _____

2. $7.89 + (-1.23) =$ _____

3. $0.22 + 0.44 =$ _____

4. $11.2 + 4.56 =$ _____

5. $20.03 + (-4.6) =$ _____

6. $0.03 + (-0.15) =$ _____

7. $9.09 + 5.05 =$ _____

8. $0.88 + (-0.66) =$ _____

9. $22.2 + 3.07 =$ _____

10. $8.34 + 1.56 =$ _____

#13 Rational Numbers BINGO!

Directions: To play Rational Numbers Bingo!, find the absolute value & mark off in the grid. When you get five in a row, you win!

-30	14	30	55	70
-19	18	40	58	80
-10	20	FREE SPACE	60	90
-7	25	44	63	95
-6	28	50	69	100

1. $|-20| =$ _____

2. $-|10| =$ _____

3. $-|30| =$ _____

4. $|-30| =$ _____

5. $|-100| =$ _____

6. $|-40| =$ _____

7. $|-50| =$ _____

8. $|60| =$ _____

9. $|-70| =$ _____

10. $|-90| =$ _____

#14 Rational Numbers BINGO!

Directions: To play Rational Numbers Bingo!, find the absolute value & mark off in the grid. When you get five in a row, you win!

-100	-50	0	40	80
-90	-40	10	50	85
-80	-30	FREE SPACE	55	90
-75	-20	15	65	95
-70	-10	25	70	100

1. $-|-20| =$ _____

2. $|10| =$ _____

3. $-|90| =$ _____

4. $-|-70| =$ _____

5. $-|100| =$ _____

6. $-|-40| =$ _____

7. $|-50| =$ _____

8. $|70| =$ _____

9. $|-90| =$ _____

10. $|-80| =$ _____

#15 Rational Numbers BINGO!

Directions: To play Rational Numbers Bingo!, find the absolute value & mark off in the grid. When you get five in a row, you win!

-100	-50	0	40	90
-90	-40	10	50	100
-80	-30	FREE SPACE	60	110
-70	-20	20	70	120
-60	-10	30	80	130

1. $|-20 + 30| =$ _____

2. $|10| + -30 =$ _____

3. $-|30| - 30 =$ _____

4. $|-30| - 30 =$ _____

5. $|-100| - 30 =$ _____

6. $|-40| + 40 =$ _____

7. $|-50| + 40 =$ _____

8. $-|40| - 40 =$ _____

9. $|-70| - 40 =$ _____

10. $|-90| - 40 =$ _____

#16 Rational Numbers BINGO!

Directions: To play Rational Numbers Bingo!, find the absolute value & mark off in the grid. When you get five in a row, you win!

-130	-80	-30	10	60
-120	-70	-20	20	70
-110	-60	FREE SPACE	30	80
-100	-50	-10	40	90
-90	-40	0	50	100

1. $-|-20|+20=$ _____

2. $|10|+20=$ _____

3. $-|90|-20=$ _____

4. $-|-70|-20=$ _____

5. $-|100|-20=$ _____

6. $-|-40|+10=$ _____

7. $-|50|+10=$ _____

8. $|70|-10=$ _____

9. $|-90|-10=$ _____

10. $|-80|-10=$ _____

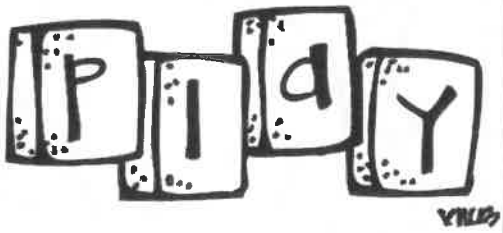
#17 Expression Squares

Directions: Add up each row, column and diagonal in the grids and place the sums in the boxes on the sides & variables.

z	x	4	
3	7	8	
6	y	5	
18	10	17	21

x =
y =
z =

x	3	8	
6	z	4	
5	7	y	
13	19	13	12



5	6	7	
3	z	4	
y	8	x	
9	23	13	16

y	5	6	
7	8	z	
3	x	4	
11	15	19	13

8	y	6	
7	x	4	
5	z	3	
20	12	13	13

#18 Expression Squares

Directions: Each row, column and diagonal add up to the values shown. Fill in the rest of the grid of numbers & variables.

6	x	y	17
	9		15
	7	z	13
11	24	10	17

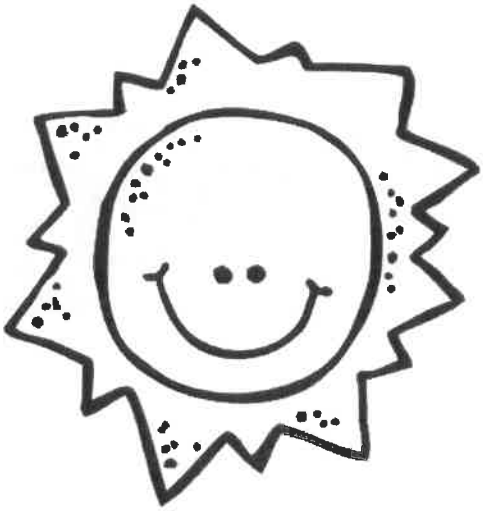
x =

y =

z =

4		x	21
y			10
z	7		14
9	17	19	10

7			12
		y	17
6	x	z	16
18	18	9	18



7	z		18
	4	y	12
	1	x	15
18	7	20	19

y		z	12
5	x		17
	9		16
14	24	7	12

#19

Writing Expressions

Directions: Circle the expression that is described.

1. Five times the sum of a number and one
   $5(n + 1)$ OR $5n + 1$

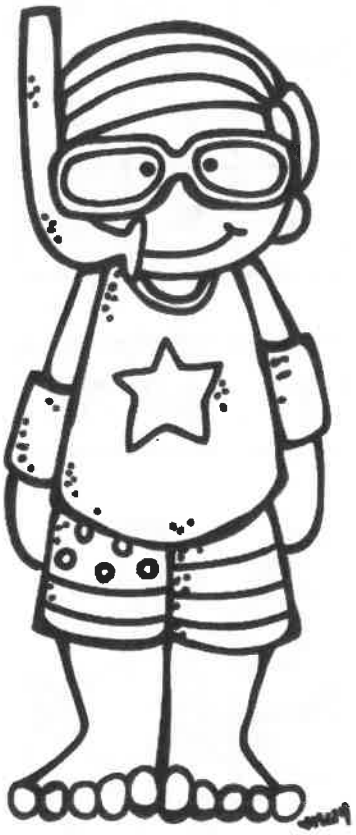
2. The quotient of n and 3
   $n + 3$ OR $n \div 3$

3. Twice a number minus three
   $2n + 3$ OR $2n - 3$

4. Triple a number
   $3x$ OR $x \div 3$

5. The sum of three and y
   $3 + y$ OR $y - 3$

6. The difference of three and y
   $y - 3$ OR $3 - y$



7. Ten multiplied by a number added to one
   $10n + 1$ OR $10n + 1n$

8. A number plus a number
   $2n + 2n$ OR $n + n$

9. The quotient of ten and x
   $x \div 10$ OR $10 \div x$

10. A number multiplied by the difference of y and 5
    $n \times y + 5$ OR $n(y - 5)$

#20

Equation Squares

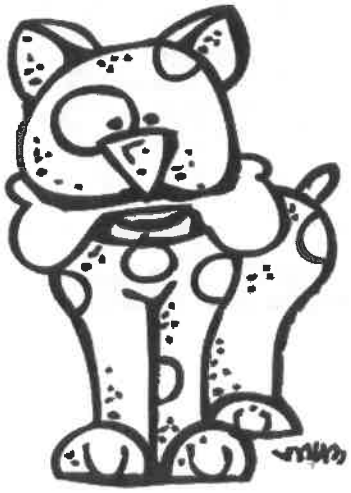
Directions: Each row, column and diagonal add up to the values shown. Find the missing variables of the grid.

12	14	x	30
2	y	5	30
z	6	8	30
30	30	30	30

x =

y =

z =



6	27	a	45
21	b	9	45
c	3	24	45
45	45	45	45

a =

b =

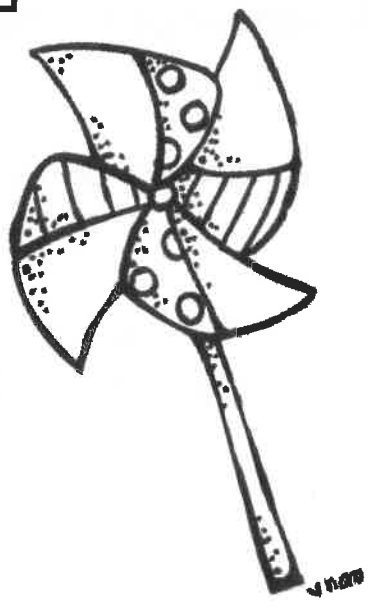
c =

8	1	m	15
3	n	7	15
p	9	2	15
15	15	15	15

m =

n =

p =



#21 Equation Squares

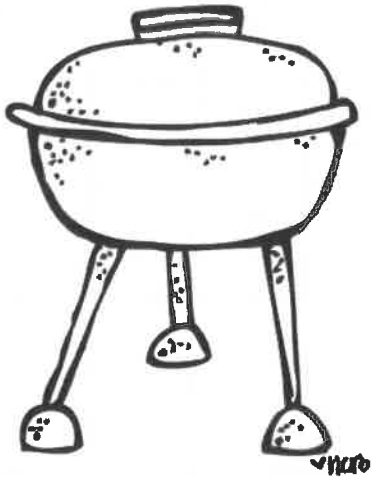
Directions: Each row, column and diagonal add up to the values shown. Find the missing variables of the grid.

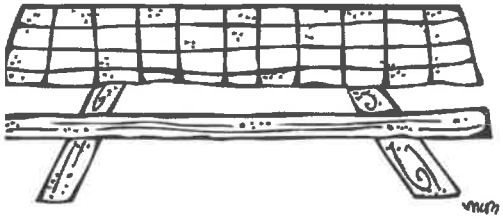
9	2	x	15
3	y	5	16
z	1	7	14
18	11	16	24

x =

y =

z =





8	1	a	13
5	b	3	14
c	2	9	18
20	9	16	23

a =

b =

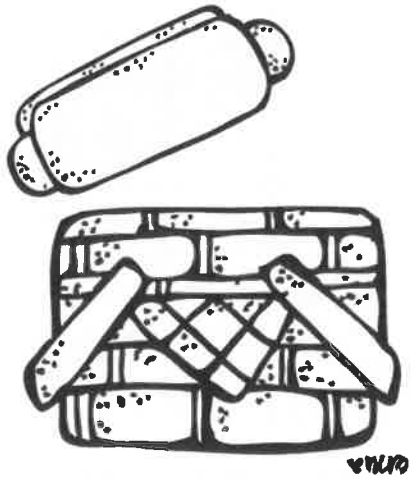
c =

2	7	m	14
6	n	4	11
p	3	9	20
16	11	18	12

m =

n =

p =



#22

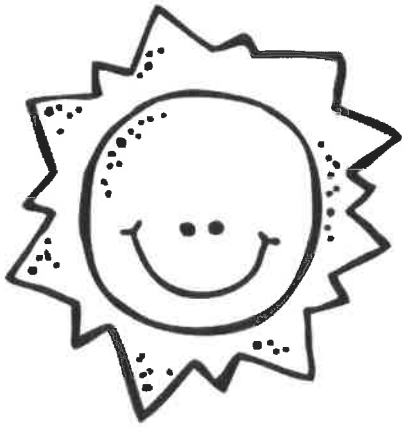
Equation Squares

Directions: Each row, column and diagonal add up to the values shown. Find the missing variables of the grid.

w	7	x	17
5	y	1	8
z	8	3	20
20	17	8	11

w = x =

y = z =



6	a	b	21
1	c	9	15
d	4	2	9
10	16	19	13

a = b =

c = d =

4	k	m	10
3	n	7	12
p	9	6	23
15	16	14	12

k = m =

n = p =

#23 Construct Geometric Figures

Directions: Complete each triangle by drawing the third side. If the triangle cannot be completed circle "no triangle".

1. right acute obtuse no triangle

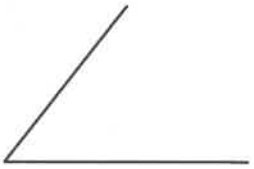
2. right acute obtuse no triangle

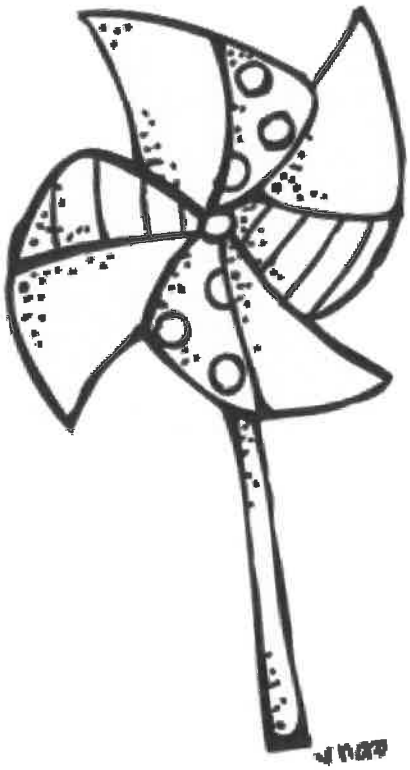
3. right acute obtuse no triangle

4. right acute obtuse no triangle

5. right acute obtuse no triangle

6. right acute obtuse no triangle

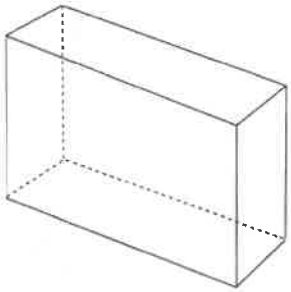




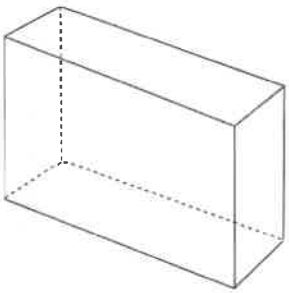
#24 Construct Geometric figures

Directions: Draw the "cutting" described for each prism.

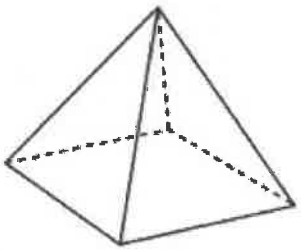
7. Cut parallel to base

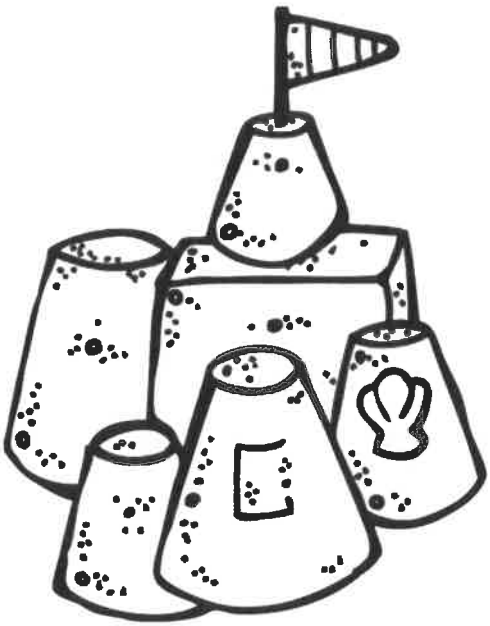


8. Cut not perpendicular to base

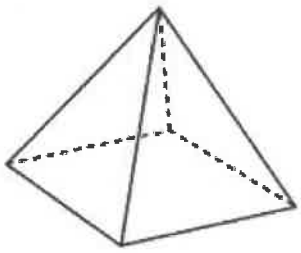


9. Cut perpendicular to base touching vertex





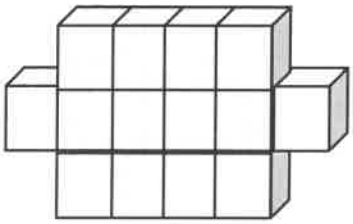
10. Cut parallel to base



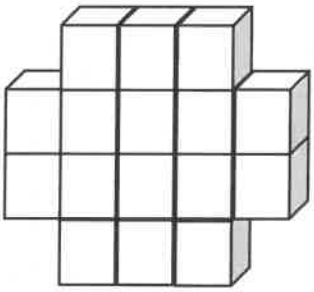
#25 Finding Icy Volume

Directions: Count the cubes to the find the volume of each ice sculpture on the beach. Each cube is 1 cubic feet.

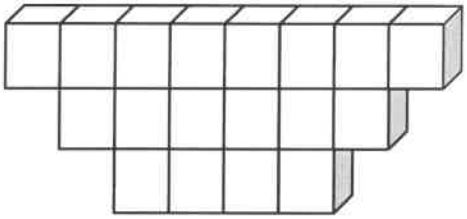
1. _____ cubic feet



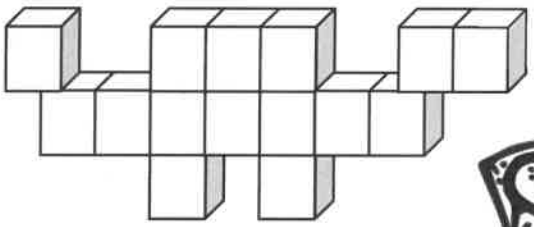
2. _____ cubic feet



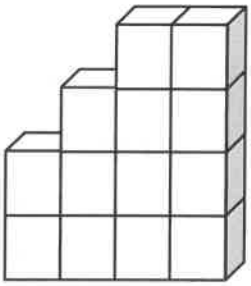
3. _____ cubic feet



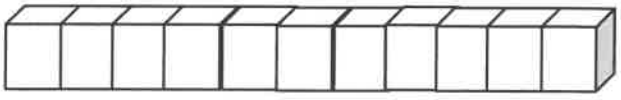
4. _____ cubic feet

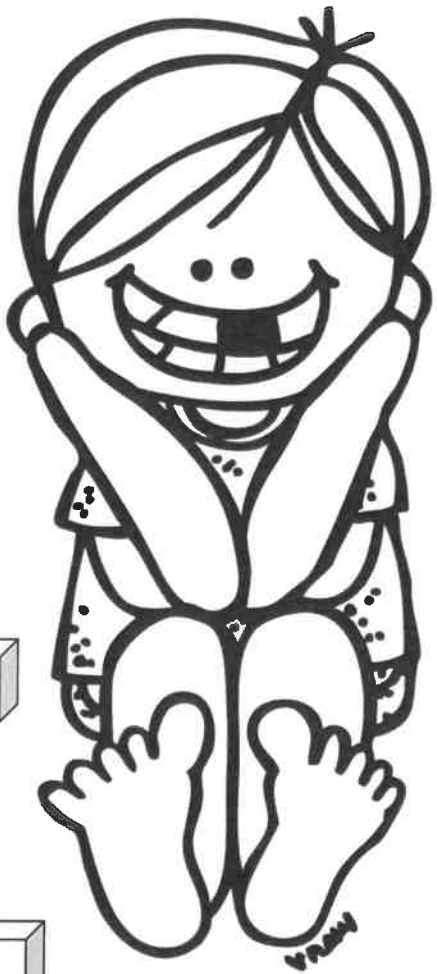


5. _____ cubic feet



6. _____ cubic feet

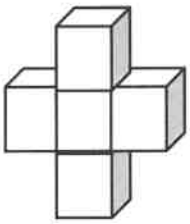




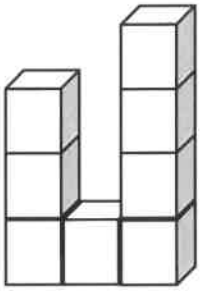
#26 Finding Icy Surface Area

Directions: Count the cubes to the find the surface area of each ice sculpture on the beach. Each cube face is 1 sq. feet.

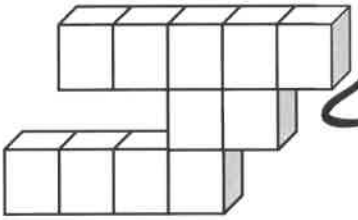
1. _____ square feet



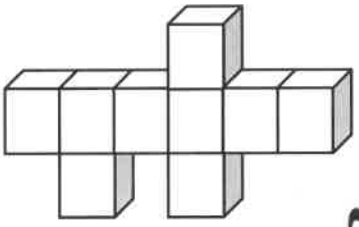
2. _____ square feet

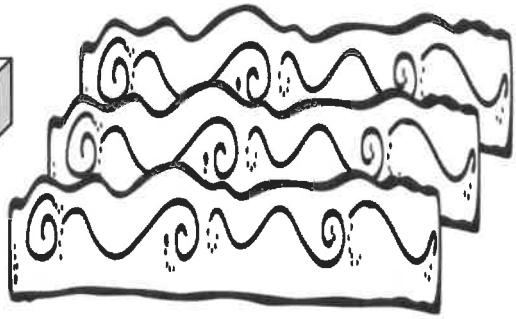


3. _____ square feet

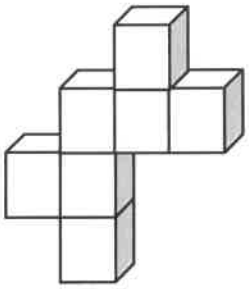


4. _____ square feet

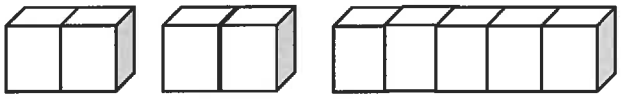




5. _____ square feet



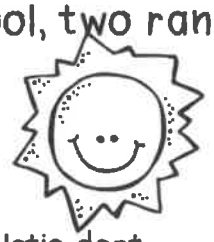
6. _____ square feet



#27 Drawing Inferences

Directions: Circle either population or sample for each word problem set.

1. Data has been collected from a random sample of high school students in grades 9-12. The data collected is referencing their interest in adding new sports to the athletic department. Of the 2700 students in the high school, two random samples of 100 students were surveyed.



High school students in grades 9-12 — Population OR Sample

Students interested in new sports to athletic dept — Population OR Sample

2. Data has been collected from Carson Elementary School students in grades 3-5. The data collected is referencing their interest in adding clubs to the after school program. Of the 500 students in the school, 200 students were randomly surveyed.

200 students randomly selected — Population OR Sample

Carson Elementary School students in grades 3-5 — Population OR Sample

3. The local pet shop came to Carson elementary school and surveyed 200 students grades 1-5. They asked them to identify if they were a pet owner and identify one pet they own.

200 students that own pets — Population OR Sample

Carson Elementary School students in grades 1-5 — Population OR Sample

4. The local pet shop came to Jones High School and surveyed 200 students out of the 1200 students. They asked them to identify if they were a pet owner and identify one pet they own.

1200 high school students — Population OR Sample

200 high school students that own pets — Population OR Sample

#28 Drawing Inferences

Directions: Find the measures of central tendency (mean, median, mode, and range) for each data set. Answer questions about summarizing and drawing inferences about the data.

1. What is the mean?

   _____

2. What is the median?

   _____

3. What is the mode?

   _____

4. What is the range?

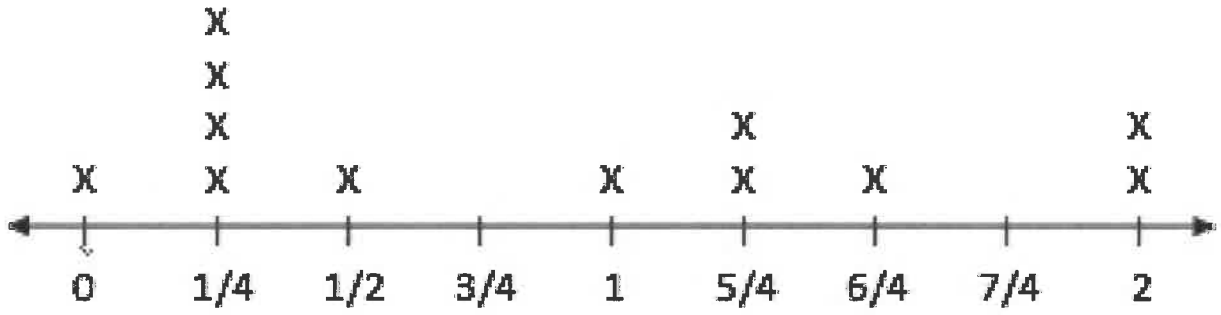
   _____

5. If there were 24 students surveyed, estimate how many would want to have one and three fourths lemonades?

   _____

6. If there were 24 students surveyed, estimate how many kids had five fourths of a lemonade?

   _____

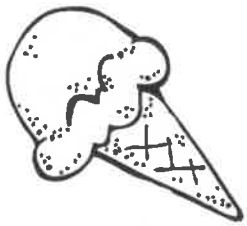


How much lemonade each kid drank

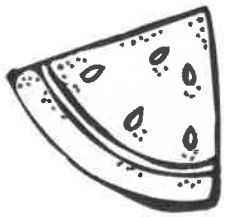
#29 Evaluating Probability

Directions: Find the measure of probability using fraction, percent, and decimal.

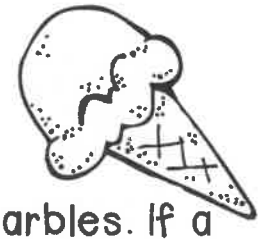
1. Laura opened her piggy bank and counted the number of each coin. She had 10 quarters, 11 dimes, 12 nickels, and 13 pennies. If the coins are put in a bag and one is chosen at random, what is the probability that the chosen coin is worth less than 25 cents?



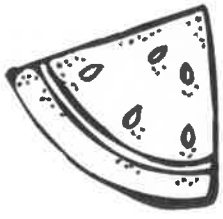
2. Samantha is a student in a seventh grade math class with 14 boys, and 8 other girls. The teacher selects one student randomly from the class. What is the probability of picking Samantha?



3. A survey of 50 people found that 14 people like building a snowman. If 600 people had responded, how many would have been expected to list building a snowman as their favorite winter activity?



4. A bag contains 15 blue, 3 red, 10 white, and 7 green marbles. If a marble is drawn at random and replaced 50 times, how many times would you expect to draw a white marble?



#30 Evaluating Probability

Directions: Find the measure of probability using fraction, percent, and decimal.

5. Laura opened her piggy bank and counted the number of each coin. She had 10 quarters, 11 dimes, 12 nickels, and 13 pennies. If the coins are put in a bag and one is chosen at random, what is the probability that the chosen coin is worth more than 5 cents?

_____

6. Samantha is a student in a seventh grade math class with 14 boys, and 8 other girls. The teacher selects one student randomly from the class. What is the probability of picking a girl?

_____

7. A survey of 50 people found that 22 people like water-skiing. If 600 people had responded, how many would have been expected to list water-skiing as their favorite summer activity?

_____

8. Tommy tosses a penny 100 times. He finds that when he tossed the penny it landed heads 38 times. Tommy thinks he tossed the penny the wrong way. Do the outcomes for tossing the penny appear to be accurate?

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