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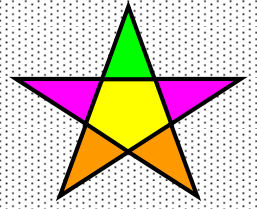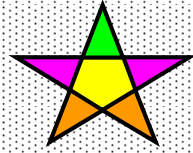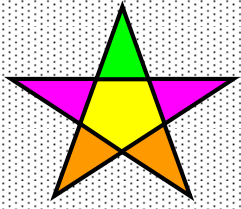
MATHEMATICS

GRADE 7

Student Book

Six Weeks 1 Lesson 1

Problem-Solving Model

Step	Description of Step
1	**Analyze the given information.** • Summarize the problem in your own words. • Describe the main idea of the problem. • Identify information needed to solve the problem.
2	**Formulate a plan or strategy.** • Draw a picture or diagram. • Guess and check. • Find a pattern. • Act it out. • Create or use a chart or table. • Work a simpler problem. • Work backwards. • Make an organized list. • Use logical reasoning. • Brainstorm. • Write a number sentence or an equation
3	**Determine a solution.** • Estimate the solution to the problem. • Solve the problem.
4	**Justify the solution.** • Explain why your solution solves the problem.
5	**Evaluate the process and the reasonableness of your solution.** • Make sure the solution matches the problem. • Solve the problem in a different way.

Problem-Solving Questions

Directions:
- **Work with a partner.**
- **Write your answers on notebook paper.**
- **Answer questions 1-3.**
- **Complete the solution to the problem(s).**
- **Answer questions 4-10.**

1. What is the main idea of this problem?

2. What are the supporting details in this problem?

3. What skills, concepts, and understanding of math vocabulary are needed to be able to answer this problem?

4. Did this problem involve mathematics arising in everyday life, society, or the work place?

5. What is a good problem solving strategy for this problem?

6. Can you explain how you used any math tools, mental math, estimation, or number sense to solve this problem?

7. Did this problem involve using multiple representations (symbols, diagrams, graphs, math language)?

8. Did you use any relationships to solve this problem?

9. How can you justify your solution to the problem?

10. How can you check for reasonableness of your solution to this problem?

Student Activity 1

Work with your partner to answer the following questions.

1. Complete the following statements by filling in the blank with an appropriate word or words.

    A group of objects or numbers is called a _____.

    A part of a set is called a _____.

    The set {1, 2, 3, 4, 5, 6, …} is called the set of _____ _____.

    The set {…-6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, …} is called the set of _____.

    The set of numbers that can be expressed as the ratio of two integers is the set of _____ numbers.

    A terminating decimal is a decimal that _____.

    A repeating decimal is a decimal that _____.

    $0.\overline{9}$ is a _____ decimal and 1.4 is a _____ decimal.

2. Place a √ in each column that names a set the given number belongs to.

	Rational Number	Integer	Whole Number	Counting Number
−16				
0				
1.5				
$\dfrac{21}{4}$				
$-4.\overline{2}$				
$-35\dfrac{2}{3}$				
1,250				
$0.\overline{12}$				

3. Name 3 integers that are NOT whole numbers.

    _____ _____ _____

4. Name 3 rational numbers that are NOT integers.

    _____ _____ _____

5. Name a rational number that would be between 3 and 3.1 on a number line.

6. Draw a Venn diagram that shows the relationship among rational numbers, integers, whole numbers, and natural numbers.

7. Place the following numbers in the appropriate set on the Venn diagram you drew in Question 6.

   217   −4   1.1 $\dfrac{21}{3}$ 3   125 $0.\overline{4}$ $-2\dfrac{1}{2}$

8. Identify each statement below as T(true) or NT(not true).

   _____1. All prime numbers are integers.

   _____2. All decimals are rational numbers.

   _____3. All whole numbers are counting numbers.

   _____4. All whole numbers are integers.

9. Name 2 counting numbers that will be between 3 and 6.5 on a number line.

10. Using a W for whole numbers, I for integers, and R for rational numbers, identify all the sets of numbers that have members in the given set.

   $\{-1,\ -3,\ -14,\ -13\}$_____

   $\left\{\dfrac{22}{7},\ 3.\overline{14},\ 4,\ 0\right\}$_____

   $\left\{-20,\ -1.1,\ \dfrac{4}{3},\ -3\right\}$_____

Student Activity 2

Work with your partner to answer the following questions.

1. Identify the set of numbers that best describes each situation

    *   The amount of the ingredients used to make brownies

    *   The number of homeruns hit by a baseball team during the last game of the season

    *   A board game has a spinner with 3 sections- Lose your Turn, Move Forward, Move Backward and a number cube with the numbers 1-6. The number of moves you make after a spin and a roll

    *   The number of students on a school bus when it arrives at school in the morning

    *   The number of seconds recorded for the times of the participants running the 100 meter dash at a track meet

    *   The balance in a person's check register

    *   The height of a person in centimeters

2. How can you show the relationship among the set of rational numbers, integers, whole numbers, and counting numbers?

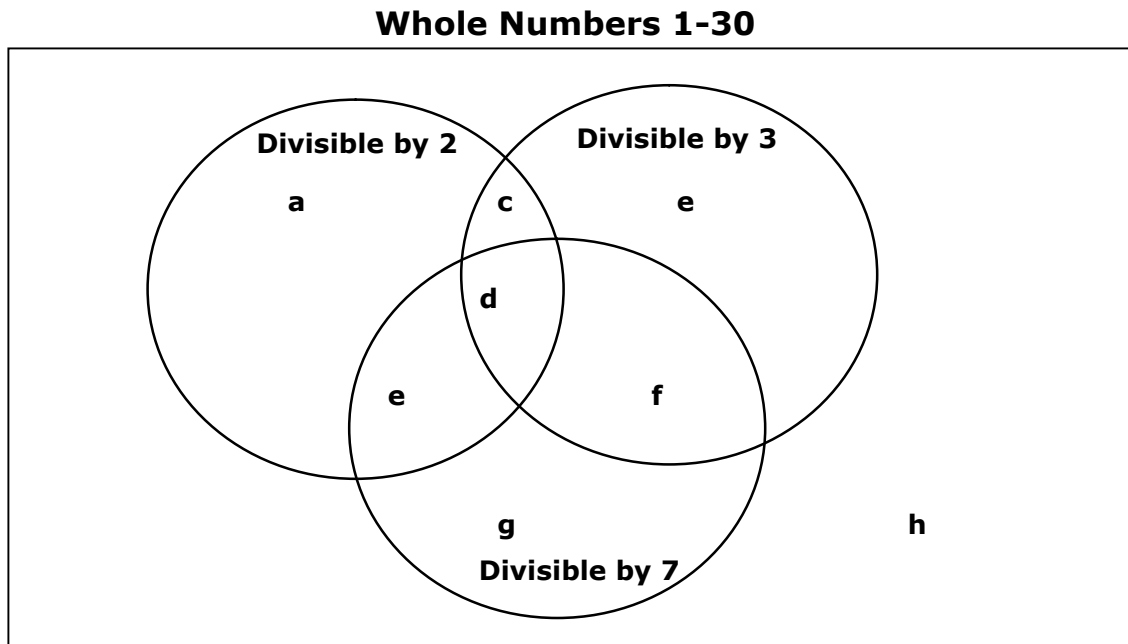3. Fill in the following Venn diagrams with the counting numbers 1 to 20.

Counting Numbers 1 to 20

Counting Numbers 1 to 20

Numbers divisible by 3

Numbers divisible by 5

Even Numbers

Numbers divisible by 7
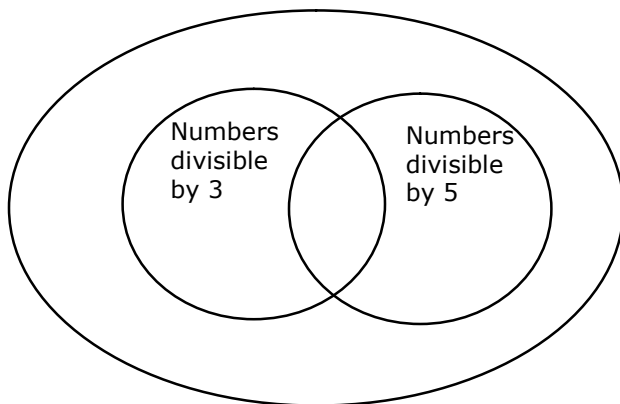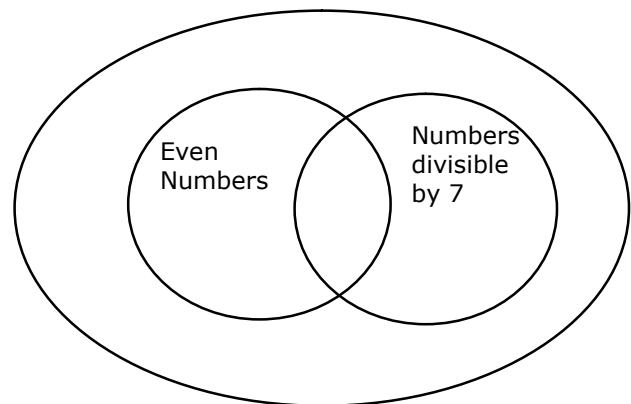
4. Look at the Venn diagram below. It contains the set of whole numbers 1-30.

Whole Numbers 1-30

- Describe verbally the numbers that would be in the section labeled a.

   _____

- List the number(s) that would be in section a.

- Describe verbally the numbers that would be in the section labeled c.

   _____

- List the number(s) that would be in section c.

- Describe verbally the numbers that would be in the section labeled g.

   _____

- List the number(s) that would be in section g.

- Describe verbally the numbers that would be in the section labeled d.

  _____

- List the number(s) that would be in section d.

- Describe verbally the numbers that would be in the section labeled b.

  _____

- List the number(s) that would be in section b.

- Describe verbally the numbers that would be in the section labeled h.

  _____

- List the number(s) that would be in section h.

- Describe verbally the numbers that would be in the section labeled f.

  _____

- List the number(s) that would be in section f.

- Describe verbally the numbers that would be in the section labeled e.

  _____

- List the number(s) that would be in section e.

Are all the whole numbers 1-30 found in at least one of the sections?   Explain your answer.

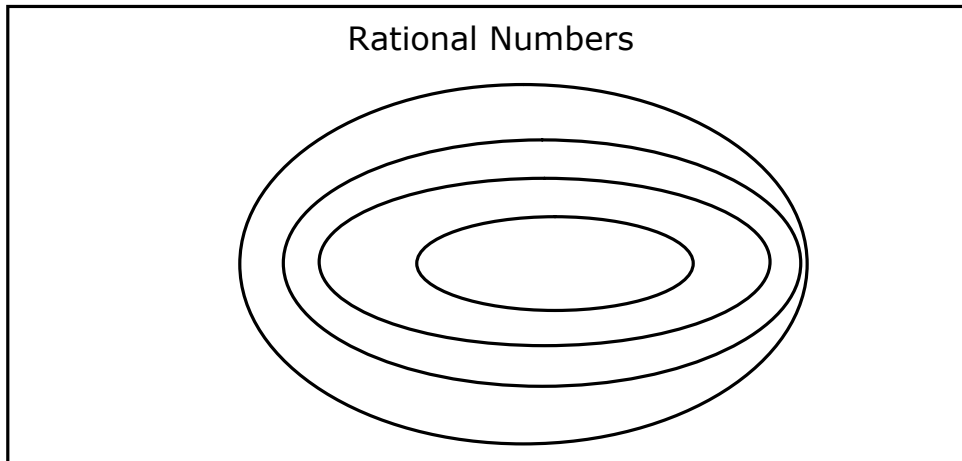Were any of the sections empty?   Explain

NAME_____   DATE_____   SCORE ___/5

7.2A Skills and Concepts Homework 1

1. Fill in the Venn diagram below showing the relationship of rational numbers, integers, whole numbers, and counting numbers

Rational Numbers

2. Place a √ in each column that the given number belongs to.

	Rational Number	Integer	Whole Number	Counting Number
−22				
−3.1				
113				
$\frac{5}{8}$				
0.242424...				

3. Name a whole number that is NOT a counting number. _____

4. Name 3 rational numbers that are NOT positive.

_____ _____ _____

5. Name a rational number that is located between 31.5 and 31.6 on a number line. How do you know it is rational?

NAME_____   DATE_____   SCORE ____/5

7.2A Skills and Concepts Homework 2

1. Identify the set of numbers that best describes each situation.

   • The number of miles you could walk in 30 minutes

   • Possible number of cookies in a cookie jar

   • Number of fish caught in an hour of fishing

   • Scores of the top 5 golfers on a leader board

2. Explain how the set of integers differs from the set of counting numbers.

3. What is a composite number?

   Are composite numbers counting numbers? Explain

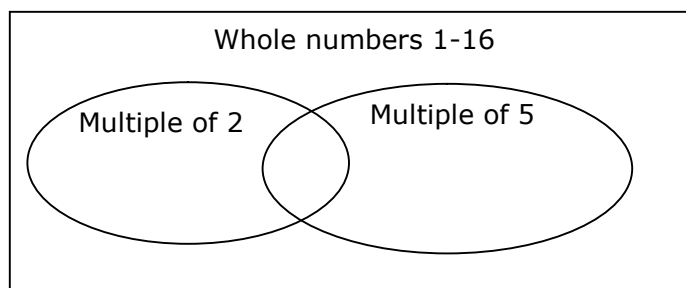4. Identify which set of numbers are listed below.

   $\{...-3, \ -2, \ -1, \ 0, \ 1, \ 2, \ 3,...\}$_____

   $\{ \ 0, \ 1, \ 2, \ 3,...\}$ _____

   $\{ \ 0, \ 2, \ 4, \ 6,...\}$_____

5. Fill in the Venn diagram below with whole numbers 1-16.

Six Weeks 1 Review

Six Weeks 1 Review

Lesson 1: 7.2A

1. Place a √ in each column that the given number belongs to.

	Rational Number	Integer	Whole Number	Counting Number
-2.5				
-20				
113				
$\dfrac{5}{8}$				
$0.\overline{4}$				

2. Name 5 rational numbers that are NOT integers.

3. What type of decimals are rational numbers?

   Give an example of a decimal that is NOT rational.

Lesson 7.3A

1. What is the rule for adding a positive rational number and a negative rational number?

   What is the sum of $-2\dfrac{1}{2}$ and 4? Show your work.

2. What is the rule for subtracting two rational number?

   What is the value of $9-(-4)$?

   What is the value of $-10.4-(-4.2)$?

What is the value of $9-17$?

What is the rule for determining the sign of the product when multiplying rational numbers?

What it the value of $(-3)(-4)$?

What is the value of $(3.5)(-8)$?

What is the rule for determining the sign of the quotient when dividing rational numbers?

What is the value of $(-300) \div (-4)$?

What is the value of $(-20) \div (2.5)$?

What is the value of $(-22) \div \left(2\frac{3}{4}\right)$?

Lesson 3: 7.3B

1. Dorothy wants to save $72.24 to buy her grandmother a special birthday gift. She has 12 weeks to save the money. If she wants to save the same amount each week, how much money, in dollars and cents, does she need to save each week?   Show your work.

2. Susie is finishing a research project for her history class. On Monday and Tuesday she worked for $3\frac{1}{2}$ hours each day. On Wednesday she worked for $2\frac{3}{5}$ hours.

- What was the total number of hours she worked on the project these 3 days? Show your work.

- How many more hours did she work on the project on Tuesday than she did on Wednesday? Show your work.

Lesson 4: 7.5A   7.5C

1. Describe the characteristics of two similar quadrilaterals.

2. Triangle *ABC* is similar to triangle *DEF*.

- $\angle A$ is congruent to $\angle$ _____ .

- Complete the proportions below based on the similarity of the two triangles.

$$\frac{AB}{DE} = \frac{BC}{\underline{\hspace{1cm}}} = \frac{AC}{\underline{\hspace{1cm}}} \qquad\qquad \frac{AB}{BC} = \frac{DE}{\underline{\hspace{1cm}}} \qquad\qquad \frac{AB}{AC} = \frac{DE}{\underline{\hspace{1cm}}}$$

- If *AB* = 15 cm, *AC* = 20 cm, and DF = 30 cm, what is the value of *DE*?   Show your work.

Lesson 5: 7.6A 7.6E

1. Draw a sample space for drawing two names from a bag with the names James, Amy, and Lois written on pieces of paper.

2. A bag contains 10 green, 8 red, 7 blue and 5 yellow marbles.

   - What is the probability a person will NOT select a yellow marble when randomly selecting one marble from the bag?

   - What is the probability a person will select a red marble when randomly drawing one marble from the bag?

3. If the probability of an event occurring is 35%, what is the probability of the event NOT occurring?

Lesson 6: 7.10A 7.11A   7.11B

1. A coin collection contains nickels and dimes. The collection contains 12 dimes. The number of dimes is 3 more than twice the number of nickels, n.

   Write an expression that shows the relationship between the number of dimes in terms on n.

   Write an equation that represents this situation.

2. Model the inequality: $2(x + 3) < 8$
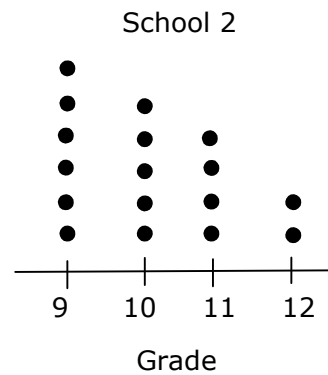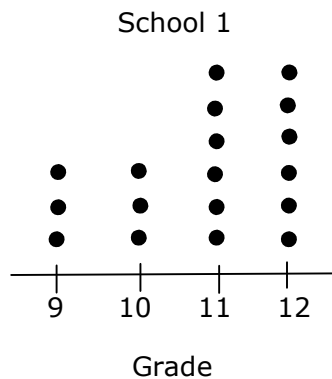
Using your model, solve the inequality.

3. Does 8 belong to the solution set of $3x - 5 > 20$?

Does 5 satisfy the equation $-4x + 3 = -17$?

Lesson 7: 7.12A

Look at the two dot plots.

1. The dot plots show the number of students in the high school orchestra in two high schools in Hebron Independent School District.

School 1

Grade

School 2

Grade

- How do the centers compare for the two dot plots?

    Center of School 1_____   Center of School 2 _____

- How do the spreads compare for the two dot plots?

    Spread of School 1_____   Spread of School 2 _____

- Make a true statement in comparing the shapes of the data for the two plots.

Lesson 8: 7.13A

1. What is the sales tax on an item costing $36.50 if the tax rate is 7.5%?

2. What is the total cost of an item that lists for $28 and has a tax rate of 8%?

3. Use the tax table below to determine the amount of tax Mr. Bradley, a single person, will pay the federal government if his taxable income is $68,138.

If Form 1040 line 43 (taxable income)-		You are Single	Married filing jointly
At least	But less than	Your tax is-	Your tax is-
$68,000	$68,050	$12,935	$9,311
$68,050	$68,100	$12,948	$9,319
$68,100	$68,150	$12,960	$9,326
$68,150	$68,200	$12,973	$9,334
$68,200	$68,250	$12,985	$9,341

He will owe _____ in taxes. If he has had $12,480 withheld by his employer, does he owe more or will he get a refund?   Explain your answer.

Lesson 9: 7.13B

1. Give two examples of fixed expenses.

Give two examples of variable expenses.

2. What is the purpose of a budget?

3. The Smith family has a net monthly income of $3,800. They budget $760 a month for household expenses, such as food and supplies for the home. What percent of their monthly income do they budget for this expense category?

4. The table below shows Carson's monthly budget. To earn money, he works after school at his dad's bike shop.

Item	Income	Expense	Amount Available
Allowance	$100		
Earning from after school Job (24 hours per week at $7 per hr)	$672		
Savings for Motorbike		$40	
Entertainment		$30	
Lunch		$60	
Saving for College		$100	
Clothes		$60	
Miscellaneous Expenses		$40	

Calculate the amount available.

Which of Carson's expenses are variable expenses?

Six Weeks 3
Lesson 4

Student Activity 1

Work with your partner to answer the following questions.

Problem 1: Explain the difference between a theoretical probability and an experimental probability.

Give an example of a theoretical probability.

Problem 2: You are rolling a 1-6 number cube.   What is the probability you will roll:

• a 5?

• a 2?

• a number greater than 2?

• a number less than 5?

Problem 3: Suppose you roll the number cube two times. What is the probability you will roll:
Show your work.

• a 2 on the first roll and a 1 on the second roll?

•   a 3 of the first roll and a number greater than 3 on the second roll?

• a 5 on both rolls?

Problem 4: What is the difference between dependent and independent events?

- Give an example of 2 independent events.

- Give an example of 2 dependent events

Problem 5: How is the probability of two independent events occurring different from the probability of 2 dependent events occurring?

Problem 6: A bag contains 12 marbles. Nine of the marbles are white and 3 of the marbles are red. You are two draw 2 marbles from the bag. What is the probability that you will draw:

- a white marble and then a red marble if you replace the first marble before drawing the second marble? Show your work.

- a white marble and then a red marble if you do NOT replace the first marble before drawing the second marble? Show your work.

- two red marbles, if the first marble is replaced before drawing the second marble?

- two red marbles, if the first marble is NOT replaced before drawing the second marble?

Problem 7: If you toss a coin and roll a 1-6 number cube, what is the probability you will toss a head and roll a 5?

Problem 8: In an experiment you tossed a coin 50 times and rolled a number cube 50 times. You tossed a head 30 times. The table below shows the frequency of each number for the number cube rolls.

Number	1	2	3	4	5	6
Frequency	6	9	10	9	7	9

What is the experimental probability on the next toss and roll you will get a head and a 4?

Student Activity 2

Work with your partner to answer the following questions.

Problem 1: What is a sample space?

Give a sample space for tossing a coin and rolling a 1-6 number cube.

Problem 2: Using the sample space you gave in Problem 1, what is the probability you will:

- toss a head and roll a 6?

- toss a tail and roll a number larger than 3?

- toss a head and roll an even number?

Problem 3: Use the circle below to create a spinner with 3 equal sectors. Label the sectors A, B, and C.
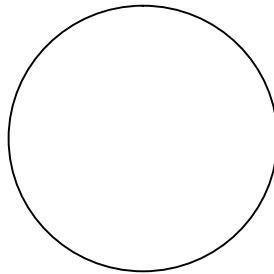
• Create a sample space to show the outcomes of 2 spins of the spinner.

- What is the probability you will:
  spin A A?

  spin C A?

  not spin a BC?

  not spin a B either spin?

Problem 4: Benny and Laurie worked together to complete an experiment. Benny tossed a coin and recorded the results of the toss. He did this 50 times. Laurie rolled a number cube and recorded the number she rolled. She did this 50 times. The data they collected is shown below.

Heads	Tails
21	29

1	2	3	4	5	6
7	8	9	9	10	7

Using the sample space for the results of their experiment, find the following probabilities. Show your work.

- Tossing a head and rolling a 2

- Tossing a head and rolling a 4 or 5

- Tossing a tail and rolling an odd number

- Tossing a tail and rolling a factor of 6

- Tossing a head and NOT rolling a 5

How does the experimental probability of rolling a 5 compare to the theoretical probability of rolling a 5?

How does the experimental probability of tossing a head compare to the theoretical probability of tossing a head?

Student Activity 3

MATERIALS: Per Pair of Students: 1 bag of 4 different colored tiles; 1 penny; 1 number cube

PROBLEMS:
- How can you make a sample space for an event?

- How can you make a frequency table for an event?

PROCEDURE: Work with your partner to complete this activity. Identify Student 1 and Student 2.
Part I:
- Open your bag of colored tiles. List the color of your tiles on the frequency table below.
- Create a sample space to represent the outcomes of drawing a tile from the bag. Use the space below to write your sample space.
- Create a sample space for rolling the number cube. Use the space below to write your sample space.
- Create a sample space for drawing a tile AND rolling the number cube. Use the space below to write your sample space.

Sample space for the drawing a tile:

Sample space for rolling a number cube:

Sample space for the drawing a tile AND rolling a number cube:

Experiment 1:
- Student 1 will draw a tile from the bag and record the color by tallying on the frequency chart below. Replace the tile in the bag and drawing again. Student 1 will do this 50 times and record the results of the drawings on the frequency chart below by tally marks. After all the draws, total the tally marks and complete the last row of the chart.

Color				
Frequency				
Total Draws				

- Student 2 will toss the number cube 50 times and record the results of the tosses on the frequency chart below by tally marks. After all the tosses, total the tally marks and complete the last row of the chart.

Number	**1**	**2**	**3**	**4**	**5**	**6**
Frequency						
Total Tosses						

Using the data in the charts of the experiment, answer the following questions.

- What is the probability that the next draw and toss will be a _____ tile and a 3? (Use the first color you listed on the frequency table.)

- How does this probability compare to the theoretical probability you will draw a _____ tile and toss a 3? (Use the first third color you listed on the frequency table.)

  (Use your sample space from the other page.)

- What is the probability that the next draw and toss will be a _____ tile and a 6? (Use the second color you listed on the frequency table.)

- What is the probability that the next draw and toss will be a _____ tile and a 2 or 3? (Use the third color you listed on the frequency table.)

- What is the probability that the next draw and toss will be a _____ tile and an even number? (Use the fourth color you listed on the frequency table.)

Part II: Experiment 2:
- Student 1 will toss the penny 25 times and Student 2 will tally the results in the chart
  Student 2 will toss the penny 25 times and Student 1 will continue the tally of the results in the chart.

	Heads	Tails
Total		

Using the frequency tables from Experiment 1 and the frequency table for the penny toss, answer the following questions.

- What is the probability of tossing a head and drawing a (first color listed) tile?

- What is the probability of tossing a tail and rolling a 5?

- What is the probability of tossing a head, rolling a 2, and drawing a (second color listed) tile?

- When tossing the penny and rolling the cube, does one outcome of tossing the penny and rolling a particular number appear to have a larger probability than any other similar outcome?

  If so, what is the outcome?

  Theoretically, should there be one outcome with a larger probability? Explain your answer.

Part III:
- Did you have any difficulties in answering any of the questions in this activity?_____ If so, which questions?

- Did you have any difficulties in creating the frequency tables?

- How did you check your frequency table to make sure you had completed the experiment?

- Create a compound event using all three frequency charts. Write the event below, and then find the probability of the event occurring.

NAME_____   DATE_____   SCORE ____/5

7.6I Skills and Concepts Homework 1

1.   What is the ratio that represents the probability of a simple event occurring?

2. What is the probability you will:

   •   toss a head on a coin?

   •   roll a 4 on a 1-6 number cube?

3. What is the probability you will toss a head and roll a 4 on a 1-6 number cube?

4. What are compound events?

   What are independent events of a compound event?

   What are dependent events of a compound event?

   Give an example of independent events and an example of dependent events.

5. How do you find the probability of independent and dependent events?

NAME_____ DATE_____ SCORE ____/5

7.6I Skills and Concepts Homework 2

1. What is a sample space?

   Give a sample space for drawing a tile from a bag that contains 1 red tile, 1 blue tile, 1 green tile, and 1 yellow tile.

2. Joanie tossed a nickel 30 times. She tallied 18 heads and 12 tails.

   • What is the experimental probability the next toss will be a tail?

   • What is the experimental probability the next toss will be a head?

   • What is the theoretical probability the next toss will be head?

3. Make a sample space for tossing a nickel and rolling a 1-6 number cube.

   • How many items are in your sample space? _____

   • What is the probability of tossing a head and rolling a 1?

   • What is the probability of tossing a tail and rolling a 3 or 5? Circle the favorable outcomes in the sample space you created.

4. Create a spinner with 7 equal spaces labeled 0-6.
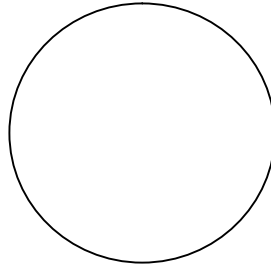
- Create a sample space for tossing a coin and spinning the spinner.

- How many elements are in your sample space? _____

- How many elements in your sample space contain a 3?

- How many elements in your sample space contain a head?

- How many elements in your sample space contain both a head and a 3?

- What is the probability you will spin a 3 and toss a head?

5. A bag contains 3 white marbles and 2 black marbles.

- You draw a marble, record it color, and do NOT replace it before drawing a second marble. What is the probability you will draw a white marble and then a black marble?

- You draw a marble, record it color, and replace it before drawing a second marble. What is the probability you will draw a white marble and then a black marble?

- Which of the two situations above are dependent events?

- Which of the two situations has the larger probability of occurring?

Six Weeks 3 Review

Six Weeks 3 Review

Lesson 1: 7.4D

1. What is a percent of change?

    What are the two types of percent of change?

    Explain how to find a percent of change.

2. If a value increases from 4 to 6, what is the percent of increase?

3. If a value decreases from 80 to 64, what is the percent of decrease?

4. If the sales tax is 8%, what will be the amount of tax on an item that cost $48?

Lesson 2: 7.7A

 1. Represent the following phrases with a mathematical expression.

   - 3 units more than the width _____

   - 14 units less than the length _____

   - Five times as much money _____

   - One-fourth of the perimeter _____

2. Complete the table below so that it represents the equation $y = 3x + 2$

x	-3	6	9	12
$y = 3x + 2$				
y				

3. Complete the table below so that it represents the verbal description:

The longest side of a triangle, *y*, is 6.5 units longer than the shortest side, *x*.

x	4	5	8	11
y				

4. Write a verbal description that represents the linear relationship shown in the equations below. *x* represents the number of sports cards Jonas has and *y* represents the number of sports cards Brent has.

- $y = 4x - 2$

- $y = \dfrac{1}{2}x + 8$

5. Write the equation and verbal description that represents the linear relationship shown in the table below. *x* represents the height of a triangle and *y* represents the base of a triangle.

x	3	4	6	12
y	7	9	13	25

Lesson 3: 7.8C/7.5B/7.9B

1. Write three formulas that can be used for working problems with circles.

2. Find the circumference and area of a circle with the given diameter. Find them in terms of π and approximated to the nearest hundredth if needed. Show the formula you used and the work you did.

    *   10 units

    *   24 units

3. Determine what positive number was squared to give the value below.

    *   25 is the square of _____.

    *   81 is the square of _____.

    *   16 is the square of _____.

4. The area of a circle is $100\,\pi$ square inches. What is the radius of the circle?

5. What is the area of a circle whose diameter is 8 units? Give your answer in terms of π and an approximation to the nearest tenth of a square unit. Show your work.

6. π is the ratio of the _____ of a circle to the _____ of the circle. It has a rational approximation of _____.

Lesson 4: 7.6I

1. What is the ratio that represents the probability of a simple event occurring?

2. What is the probability you will:

   • toss a head on a nickel?

   • roll an even number on a 1-6 number cube?

3. Beatrice tossed a nickel 30 times. She tallied 16 heads and 14 tails.

   • What is the experimental probability the next toss will be a tail?

   • What is the experimental probability the next toss will be a head?

   • What is the theoretical probability the next toss will be head?

4. Make a sample space for tossing a nickel and rolling a 1-6 number cube.

- How many items are in your sample space? _____

- What is the probability of tossing a head and rolling a 4?

- What is the probability of tossing a tail and rolling an even number?

- Are these events independent events or dependent events? _____ Explain your answer.

5. A bag contains 3 white marbles and 3 black marbles.

- You draw a marble, record it color, and do NOT replace it before drawing a second marble. What is the probability you will draw a white marble and then a black marble?

- You draw a marble, record it color, and replace it before drawing a second marble. What is the probability you will draw a white marble and then a black marble?

Lesson 5: 7.8B/7.9A

1. A triangular prism and a triangular pyramid have congruent bases and heights. The volume of the prism is 183 cubic units. What is the volume of the pyramid? Show your work.

2. A triangular prism and a triangular pyramid have congruent bases and heights. The prism's triangular base has a height of 14 centimeters and a base of 9 centimeters. It has a volume of 504 cubic centimeters. What are the volume and the height of the pyramid? Show your work.

3. A triangular prism has a volume of 378 cubic units. The height of the prism is 18 units. What is the area of the base of the prism? Show your work.
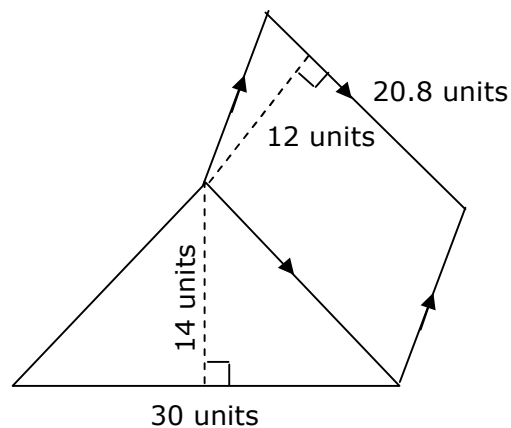
The area of the base is _____ square units.
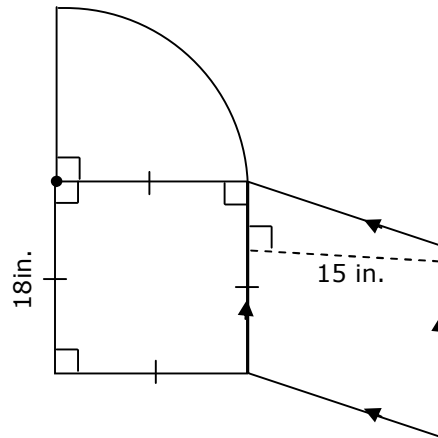
Lesson 6: 7.9C

1. Create a composite figure using a rectangle, a square, and a right triangle. Label the dimensions.

Find the area of your figure.

2. Find the area of the composite figure.

20.8 units

12 units

14 units

30 units

3. Find the area of the composite figure below.
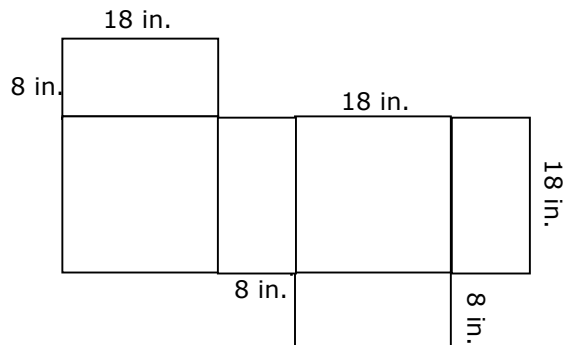

18in.

15 in.

Step 1:

Step 2:

Step 3:

Lesson 7: 7.9D

1. List the steps used to find the total surface area of a rectangular prism.

2. The figure below is a net of a rectangular prism. What are the dimensions of the prism?
   _____in. by _____in. by _____in.   What is the total surface area of the rectangular prism?
   Show your work.

18 in.

8 in.

18 in.

18 in.

8 in.

8 in.

3. Describe the faces of a rectangular pyramid.

4. Do the heights of the four triangular lateral faces have to be congruent?

5. Draw a net for the rectangular pyramid below. Find the total and lateral area for the pyramid using the net.

20.9 units

21.5 units

12 units

16 units
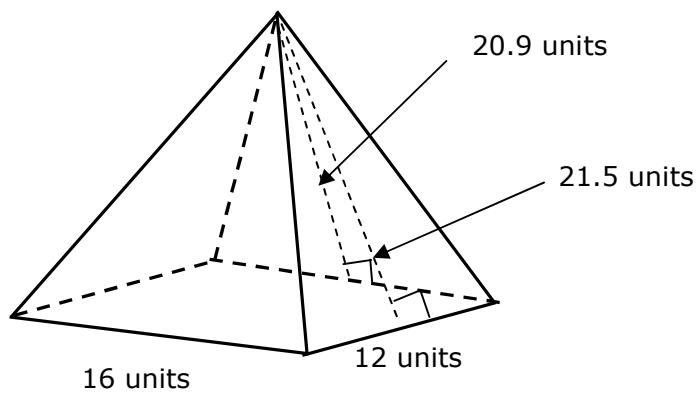
Lesson 8: 7.6G

1. Below is a dot plot representing the number of minutes a group of seventh grade students spent on a science project last week.

Science Project
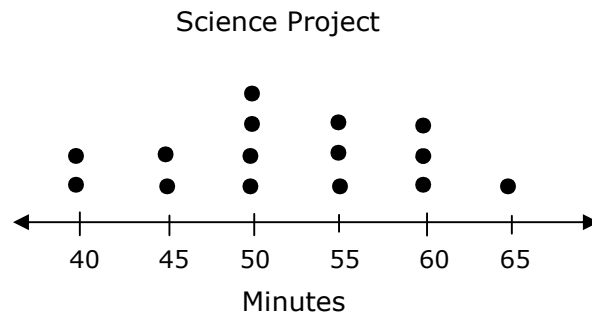
Minutes

- What percent of the students spent less than 50 minutes on the project?

- Of the students who spent less than 55 minutes, what percent spent 45 minutes?

- What is the ratio of the number of students who spent less than 50 minutes to the number of students who spent more than 50 minutes?

Lesson 9: 7.12B/7.6F

1. What is a population used for data gathering?

2. What do you need to consider when choosing a sample?

3. Mrs. White was buying a dozen eggs. She always opens the egg cartons and looks to see if any of the eggs are cracked. She had to open 4 cartons before she found one that had 12 eggs that none were cracked. If the egg storage area at the store has 80 dozen eggs, about how many would you predict have cracked eggs?

4. A survey was done to see how many dogs the students at a middle school had for their pet. Look at the circle graph below. Each sector of the circle is identified by the number of dogs and the number of students.

Number of Pet Dogs
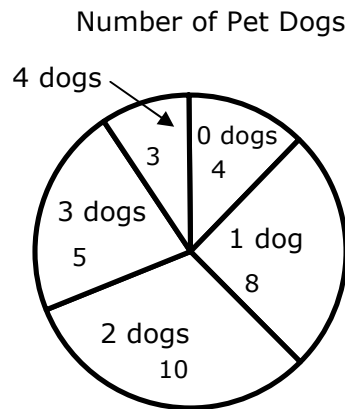
- How many students participated in the survey? _____

- If the middle school has 500 students, do you think this is a large enough sample? _____ Explain.

- If all the students surveyed were seventh graders, would that be a good sample? _____

  Explain.

- What percent of the students surveyed has 1 dog?

- What percent of the students who had more than 1 dog had 3 dogs?