

# Math Packets Summer

### This packet is intended for students going into

### Course 1

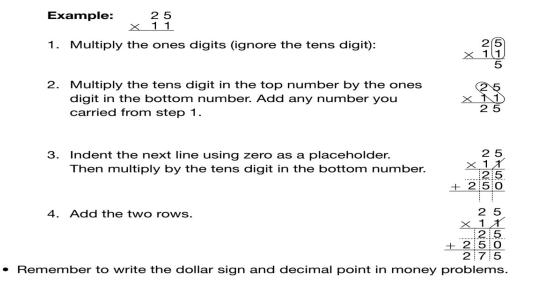
Directions: Complete the following math packet week by week. Each week you will find the topic divided into parts so you can manage the workload. This packet has 6 weeks of materials. Take your time and avoid the summer slide by completing the following work that will prepare you for Course 1. Additionally, at the end of each section, you will find a "Minute math" activity. These problems are designated to improve your math fluency and practice using strategies for solving a variety of problems.

# Week 1:

# Work on your Multi-digit Multiplication. Take your time and follow the examples Part 1:

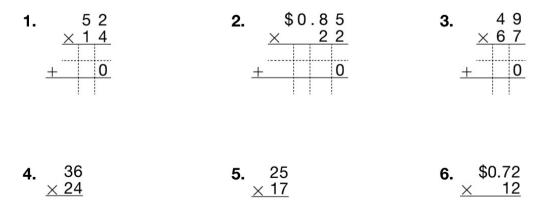
#### • Multiplying by Two-Digit Numbers

• Use a four-step process to multiply by two-digit numbers.



#### **Practice:**

Multiply. Remember to write the dollar sign in money problems.



#### Part 2: Multiply

35	21	81	89	85	81
<u>x 40</u>	<u>x 54</u>	<u>x 99</u>	x 25	x 59	<u>x 60</u>
16	97	39	57	25	10
<u>x 73</u>	x 78	<u>x 21</u>	<u>x 48</u>	x 67	<u>x 47</u>
58	41	41	10	41	16
x 26	<u>x 97</u>	x 85	x 23	x 98	<u>x 74</u>
54	84	39	46	44	10
<u>x 81</u>	x 36	x 93	x 68	x 18	x 62

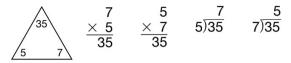
	MINUTE 1
NAME	
1.	For 902,798, write the digit in the hundreds place.
2. 3.	6 x 2 = Can 351 be evenly divided by 2? Circle: Yes or No
4.	80 ÷ 8 =
<b>5</b> ,	Write the time 3 hours after 9:00 p.m.
<i>6</i> .	What percentage of people     Favorite Sport       prefer baseball?
2.	What two sports together equal the same percentage as baseball? horkey 12% 12% 12% 12% 12% 12% 12% 12% 12% 12%
8.	Which sport has the greatest percentage?
<i>9</i> .	How many sides does a rectangle have? sides
10.	1 foot = inches

# Week 2: Work on your Division

Part 1:

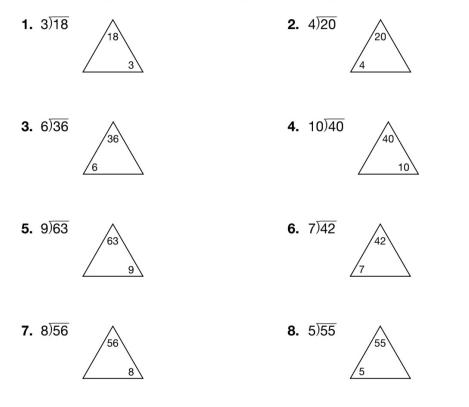
#### • Relationship between Multiplication and Division

• If you know one fact family, you know two multiplication facts and two division facts:



#### Practice:

Find the missing number in each triangle (fact family).





#### • Three Ways to Show Division

• Below are three ways to show division:

divisor)dividend	dividend $\div$ divisor	dividend divisor
Box	Sign	Bar

- The answer to a division problem is called the quotient.
- Say the dividend first.

#### **Practice:**

1. Show "15 divided by 3" in three different forms:

) ÷ ----

2. Use three different division forms to show "32 divided by 8".

) ÷ —

Use words to show how each division problem is read.

- **3.** 4)24 \_\_\_\_\_ divided by \_\_\_\_\_.
- **4.** 42 ÷ 6 \_\_\_\_\_ divided by \_\_\_\_\_.
- **5.**  $\frac{27}{9}$  \_\_\_\_\_\_ divided by \_\_\_\_\_.

Rewrite each division problem with a division box.

- **6.** 54 ÷ 6  $\overline{)}$  **7.**  $\frac{40}{8}$   $\overline{)}$
- **8.** Identify the quotient, dividend, and divisor in this equation:  $24 \div 3 = 8$

dividend \_\_\_\_\_

divisor \_\_\_\_\_

	MINUTE 2
NAME Use the p	pictograph to complete questions 1–3.
1.	How many books did Eva read? books Tyler DODD
2,	How many more books did Eva read than Diana?books Geach Diana Di
З,	Two students read the minimum number of books. How many books did they each read? books
4.	77 ÷ 7 =
5. 6.	How many sides does a <u>pentagon have?</u>
	6 + 8 = 14 14 - 8 = 6 14 - 6 = 8
2.	The value of the underlined digit in <u>3</u> 26,619 is 3 hundred thousand. Circle: True or False
8.	Write a fraction for the shaded part.
<b>9</b> .	1 minute = seconds <b>10.</b> 0, 3, 6, 9,,,

# Week 3: More Division

Part 1:

#### Division with and without Remainders

- Division and multiplication are inverse operations.
- Use division to find a missing factor in multiplication problems. Subtract using mental math.

**Example:** 8)50

Think:  $6 \times 8 = 48$ 

6 R2 50 - 48 = 28)50 The remainder is 2.

- Multiply to check division.
- Divisibility tests tell if division answers have remainders.

Tests for Divisibility		
A number is divisible by		
2	if the last digit is even.	
5	if the last digit is 0 or 5.	
10	if the last digit is 0.	

#### Practice:

Divide. Write each answer with a remainder.

R 1. 4)23	<b>2.</b> 5)34	<b>3.</b> 2)17
<b>4.</b> 36 ÷ 6 )	<b>5.</b> 7)52	6. 49 ÷ 8 ) R
<b>7.</b> 9)60	<b>8.</b> 6)43	<b>9.</b> 28 ÷ 4 )

#### Part 2:

#### • Division Algorithm

- We can use a division algorithm to break larger division problems into a series of smaller division problems that are easier to do.
- Use the division chart to remember the steps.
  - Step 1: Divide and write a number.
  - Step 2: **Multiply** and write a number.
  - Step 3: **Subtract** and write a number.
  - Step 4: Bring down the next digit.
- Continue to divide until there are no digits left to bring down.
- The remainder must be less than the divisor.
- When the dividend is a decimal number, place the decimal point in the quotient directly above the decimal point in the dividend.

R

0

• Checking division takes two steps.

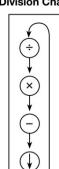
Step 1: Multiply the quotient by the divisor.

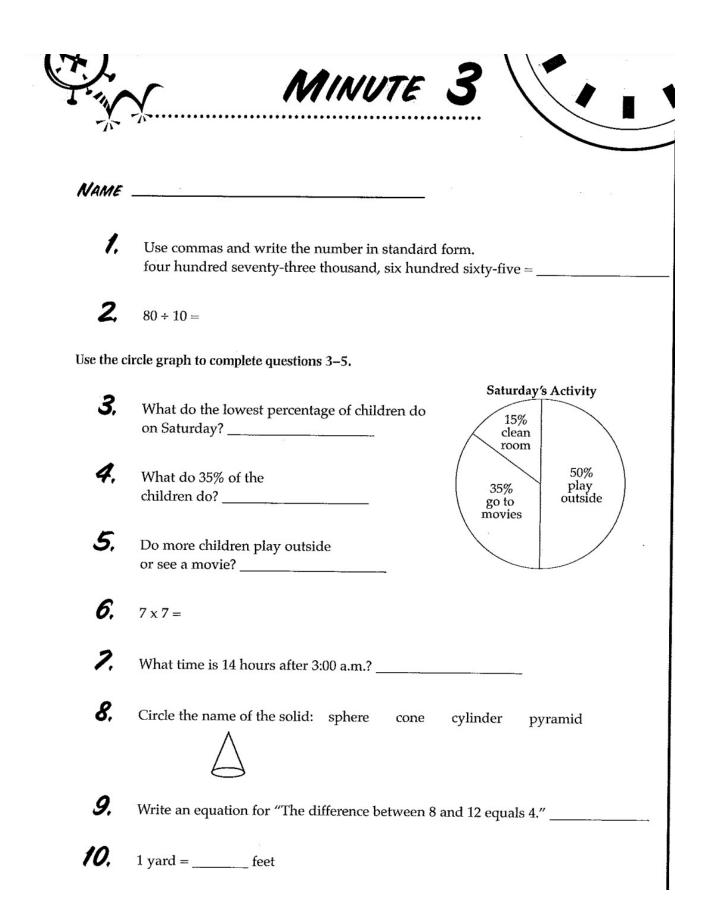
Step 2: Then add the remainder to the product.

#### Practice:

Use the division algorithm to solve.

<b>1.</b> 5)405	<b>2.</b> 7)462
<b>3.</b> 3)396	<b>4.</b> 5)465
<b>5.</b> 6)270	<b>6.</b> 4)311 R





# Week 4: Multiplication Powers of 10

Part 1:

#### • Multiplying by Multiples of 10 and 100

- When multiplying by multiples of 10, use "offset multiplication."
  - 1. Write the multiple of 10 as the bottom number.
  - 2. Let the zero "hang out" (offset to the right).
  - 3. Copy the zero into the answer.

# 4. Multiply. $35 \times 40$ zero "hangs out to the right" $\frac{35}{\times 40}$ Copy the zero. $\frac{35}{1400}$

Shortcuts: To multiply a whole number by 10, just attach a zero.

 $35 \times 10 = 350$   $37 \times 10 = 370$  To multiply a whole number by 100, attach two zeros.  $35 \times 100 = 3500$ 

• When multiplying a money amount by a multiple of 10, put two decimal places in the answer.

#### Practice:

Use offset multiplication. Remember to write the dollar sign in money problems.

<b>1.</b> 15 × 10	$\times 15 \times 10$	<b>2.</b> 40 × 38	<u>×</u>
<b>3.</b> 31 × 30		<b>4.</b> 200 × 47	
	<u>×</u>		_×
<b>5.</b> 75 × 300		<b>6.</b> \$1.83 × 20	
	<u>×</u>		<u>×</u>
<b>7.</b> \$4.19 × 50		<b>8.</b> 82 × 400	
	<u>×</u>		×

#### Part 2:

#### Making a Multiplication Table

• If you know one fact family, you know four facts.

 $3 \times 4 = 12$   $4 \times 3 = 12$   $12 \div 3 = 4$   $12 \div 4 = 3$ 

- Factors are numbers that are multiplied together to get a product (the answer).
- The Commutative Property of Multiplication says that the order of the numbers does not matter.

 $5 \times 4 = 20$  $4 \times 5 = 20$ 

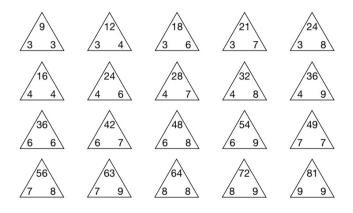
• The Property of Zero for Multiplication says any number times zero equals zero.

 $2 \times 0 = 0$ 

 The Identity Property of Multiplication says that any number times one equals itself.

 $2 \times 1 = 2$ 

• Practice reciting the four facts for each triangle by covering one number in the triangle at a time.



#### Practice:

Find each product.

- **1.**  $3 \times 7 =$  \_\_\_\_\_ **2.**  $8 \times 4 =$  \_\_\_\_ **3.**  $6 \times 3 =$  \_\_\_\_\_
- **4.**  $10 \times 0 =$  \_\_\_\_\_ **5.**  $9 \times 10 =$  \_\_\_\_ **6.**  $4 \times 6 =$  \_\_\_\_\_
- 7. The answer to a multiplication problem is called the \_\_\_\_\_.

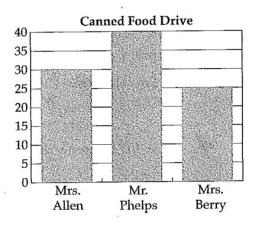
The numbers we multiply together are called \_\_\_\_\_.

MINUTE 4

#### NAME

Use the bar graph to complete questions 1-3.

- How many cans did Mrs. Berry's class collect? \_\_\_\_\_ cans
- 2. How many cans did Mr. Phelp's class collect? \_\_\_\_\_ cans
- **3.** What was the total number of cans collected? \_\_\_\_\_ cans
- 4. Write the missing family fact.
  7 x 6 = 42
  42 ÷ 7 = 6
  42 ÷ 6 = 7



- **5.** 4 years = \_\_\_\_\_ months
- **6.** 1 cm = \_\_\_\_ mm
- **7.** 80 ÷ 4 =



Write a fraction for the number of shaded triangles.



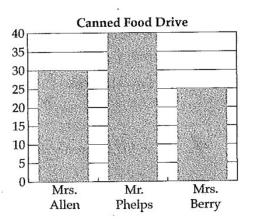
- $9, 6 \times 8 =$
- 10. Circle the rule for the sequence: 98, 87, 76, 65Add 10 Subtract 10 Add 11 Subtract 11

MINUTE 4

#### NAME

Use the bar graph to complete questions 1-3.

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- **5**, 4 years = \_\_\_\_\_ months
- **6**, 1 cm = \_\_\_\_ mm
- **7.** 80 ÷ 4 =



Write a fraction for the number of shaded triangles.



- **9**, 6 x 8 =
- *10.* Circle the rule for the sequence: 98, 87, 76, 65 Add 10 Subtract 10 Add 11 Subtract 11

Week 5:

### 1:

### • Practicing the Subtraction Algorithm

• Subtraction algorithm:

Regroup from 2 tens.	Regroup from 7 hundreds.
Subtract ones.	Subtract tens.
$\frac{\$7\cancel{2}}{7\cancel{7}}$	$ \begin{array}{r}  & \stackrel{6}{7} \stackrel{11}{2} \stackrel{17}{7} \\  & - & \$3 \ 6 \ 9 \\  & \$3 \ 5 \ 8 \end{array} $

As a shortcut, we can borrow across multiple places in one step.

	6	9 Ø	10
_	3	0	7
	3	9	3

#### Practice:

Subtract. Remember to write the dollar sign in money problems.

<b>1.</b> \$478	<b>2.</b> 300	<b>3.</b> \$871
<u>- \$129</u>	<u>- 247</u>	<u>- \$683</u>
<b>4.</b> \$600	<b>5.</b> 205	<b>6.</b> \$627
<u>- \$583</u>	<u>- 89</u>	\$374
<b>7.</b> 123	<b>8.</b> \$352	<b>9.</b> 290
98	<u>- \$269</u>	<u>- 215</u>

### Part 2: Problem Solving

#### • Word Problems About Separating

- In word problems about separating, the missing number can be the top number, the bottom number, or the difference.
- If the top number is missing, add.

Some	т	\$20
Some went away	- \$13	+ \$13
What is left	\$20	\$33

• If the bottom number is missing, subtract.

Some	\$33	\$33
Some went away	- m	- \$13
What is left	\$13	\$20

• If the difference is missing, subtract as usual.

Some	\$33	\$33
Some went away	- \$13	<u> </u>
What is left	m	\$20

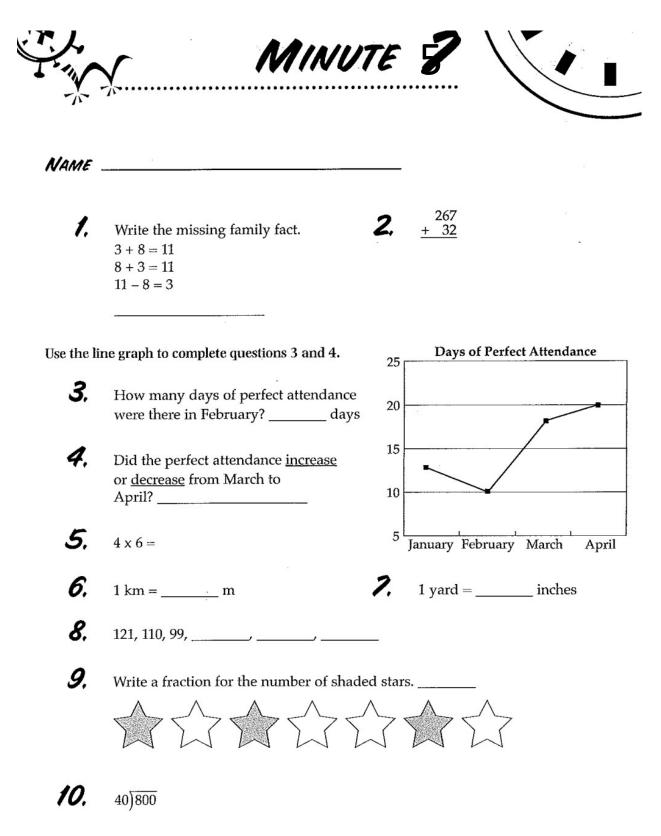
#### Practice:

1. 600 students started a painting club for the city. In the sixth month there were

313 members. How many members dropped out of the club? \_\_\_\_\_

2. Edwin paid \$65.00 for 5 tickets to the school play. He had \$129.00 left.

How much did Edwin have before he bought the tickets?



Week 6:

## Time and Problem Solving

### Part 1:

#### Measuring Time and Elapsed Time

• A leap year comes every 4 years.

It has one more day than a common year.

The extra day comes in February.

Analog clocks tell time using two "hands".

The short hand shows hours.

The long hand shows minutes.

- a.m. indicates the 12 hours before noon.
- p.m. indicates the 12 hours after noon.
- 12:00 a.m. is midnight.
- 12:00 p.m. is **noon**.
- Twelve hours later or earlier is the same hour, only the a.m. or p.m. changes.
- Twenty-four hours later or earlier is the same hour, only the day after or before.

#### Practice:

- 1. Six centuries is how many years? \_\_\_\_\_
- 2. According to the calendar, what is the date of the second Wednesday in June 2014?

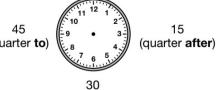


Month Day Year

3. How many more days does a leap year have than a common year?

- 4. How many minutes is a half hour?
- 5. How many hours will it be from now until this time tomorrow?
- 6. Write the time that is 18 minutes after 4 in the afternoon.

Part 2:



(half past)

(quarter to)

#### • Word Problems About Combining

• "Some and some more" problems have an addition formula.

Formula	Problem	
Some	8 miles	
+ Some more	+ 7 miles	
Total	15 miles	

- Find a missing total by adding.
- Find a missing **addend** by subtracting.
- Remember to check your answer.

#### **Practice:**

Find the missing number and check the answer. Remember to write the dollar sign in money problems.

- Quentin wants to buy a new pair of shoes for the choir performance. Shoes cost \$43. Quentin has \$28. How much money does he need to buy the shoes?
- 2. Nicolette's mother asked her how many times she had watched her favorite movie. Nicolette said she had watched it 18 times last month, but she had watched 27 times in all. How many times, before last month, had Nicolette watched the movie?
- **3.** Write a word problem about combining for the equation to the right. Then answer the question in your word problem.

38 + 54 = b

#### • Word Problems About Separating

- In word problems about separating, the missing number can be the top number, the bottom number, or the difference.
- If the top number is missing, add.

Some	m	\$20
Some went away	- \$13	+ \$13
What is left	\$20	\$33

• If the bottom number is missing, subtract.

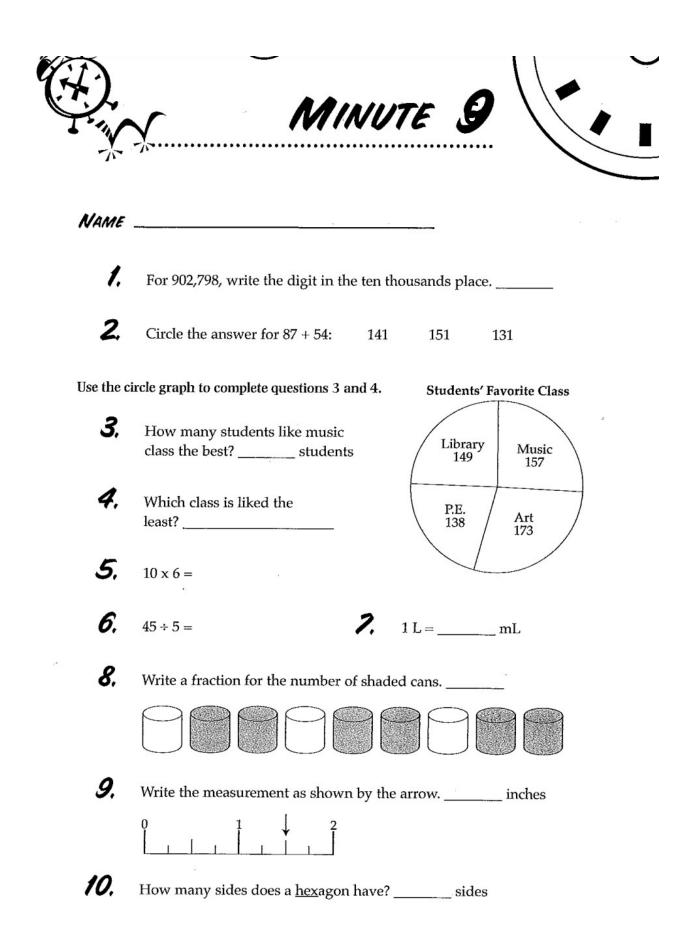
Some	\$33	\$33
Some went away	- m	- \$13
What is left	\$13	\$20

• If the difference is missing, subtract as usual.

Some	\$33	\$33
Some went away	- \$13	- \$13
What is left	m	\$20

#### Practice:

- 600 students started a painting club for the city. In the sixth month there were 313 members. How many members dropped out of the club?
- 2. Edwin paid \$65.00 for 5 tickets to the school play. He had \$129.00 left.How much did Edwin have before he bought the tickets? \_\_\_\_\_\_
- An adventure team has 47 members. 18 of the members went camping, while the others went rafting. How many members went rafting? \_\_\_\_\_



# Week 7: Fractions and Geometry

Part 1:

#### Fractions

1 List the factors of 24.

2. List the factors of 19.

Hint:

Factors are numbers that can divide into a whole number with a remainder of zero.

Hint:

Prime number: a number that has exactly 2 factors, itself and 1

> Composite number. a number that has 3 or more factors

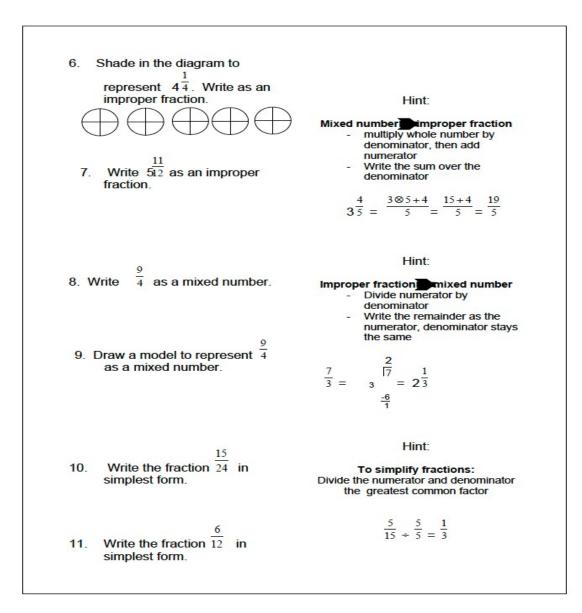
4. Tell whether the number 19 is prime or composite.

3. Tell whether the number 24

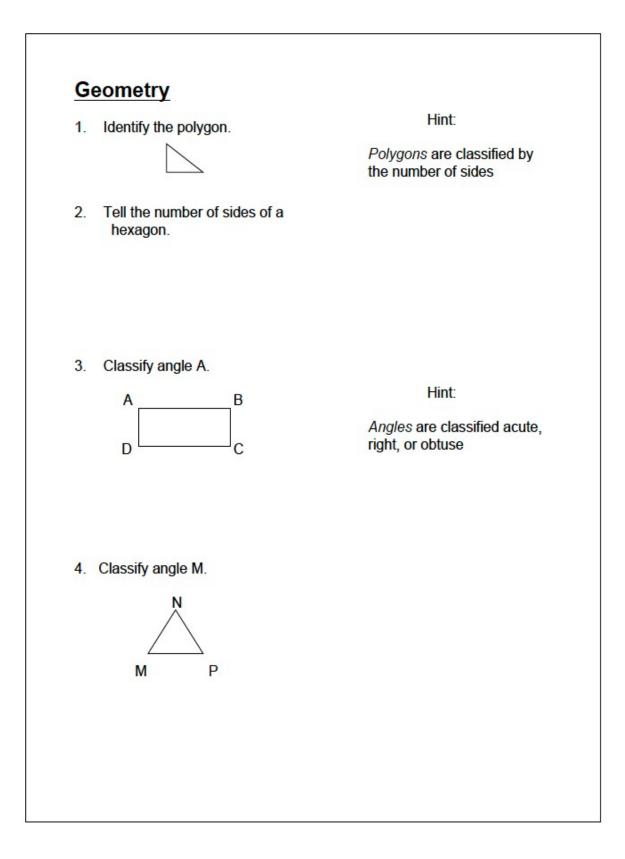
is prime or composite.

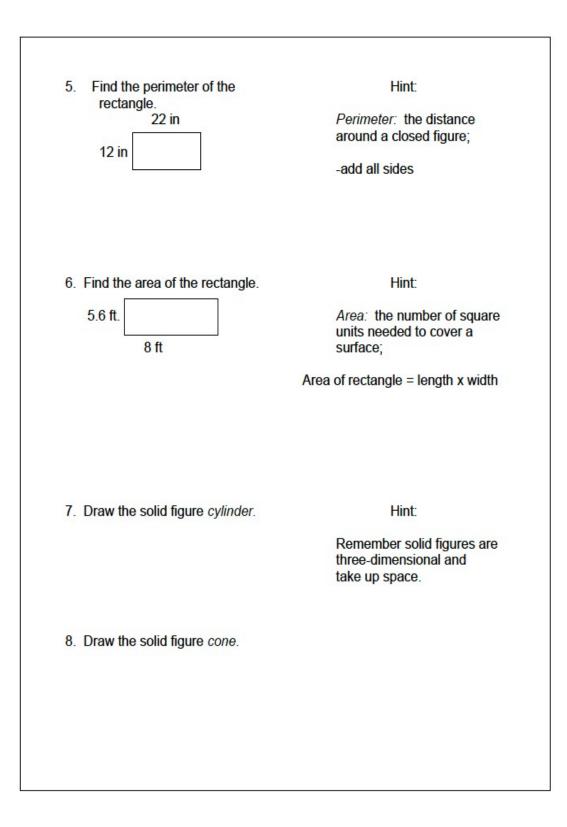
5. Find the prime factorization of the number 20.

Hint: Make a factor tree



		ifference. Put MPLEST FORM.	Hint:
12.	$\frac{2}{6}$	$+ \frac{3}{6}$	To add or subtract fractions with like denominators - Add or subtract the numerators - Use the same denominator - Simplify
13.	<u>7</u> 8	- 8	$\frac{1}{5}$ + $\frac{2}{5}$ = $\frac{3}{5}$
14.	<u>1</u> 9	+ $\frac{7}{18}$	To add or subtract fractions with unlike denominators - Find a common denominator - Rename the numerators - Add or subtract the numerators - Denominator stays the same - Simplify
15.	9 10	+ $\frac{1}{2}$	$\frac{2}{3} = \frac{4}{6}$
16.	$\frac{3}{4}$	$-\frac{2}{3}$	$\frac{1}{6} = \frac{1}{6}$ $\frac{5}{6}$
17.	8 <sup>6</sup> / <sub>21</sub>	+ $3\frac{1}{21}$	To add or subtract mixed numbers - Add or subtract the fractions - Add or subtract the whole numbers - Rename and simplify if necessary
18.	$2^{\frac{7}{8}}$	+ 3 <sup>5</sup> /8	$2\frac{1}{6}$ + $3\frac{1}{6}$
19.	$7\frac{3}{10}$	$-5\frac{1}{10}$	$\frac{2}{56} = 5\frac{1}{3}$





Have a good Summer!