

## Welcome to 6<sup>th</sup> Grade Math!

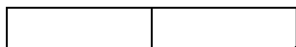
This year, we will focus on the work of becoming mathematicians. Mathematicians look for patterns, persevere in solving difficult problems, construct reasonable arguments, and work together. To do these things, we need some tools. This packet will help you sharpen your tools to be prepared for 6<sup>th</sup> grade math.

Please complete each of these problems over the summer and **bring the completed packet with you on the first day of school.**

### Fraction Operations

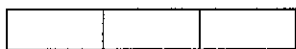
If each rectangle below represents 1 whole, what fraction is the shaded region?

1.



Shaded region = \_\_\_\_\_

2.



Shaded region = \_\_\_\_\_

Convert the mixed numbers into improper fractions:

3.  $1 \frac{1}{2} =$  \_\_\_\_\_

4.  $3 \frac{5}{8} =$  \_\_\_\_\_

Convert the improper fractions into mixed numbers:

5.  $\frac{45}{10} =$  \_\_\_\_\_

6.  $\frac{8}{5} =$  \_\_\_\_\_

Add:

7.  $\frac{3}{8} + \frac{1}{8} =$  \_\_\_\_\_

8.  $\frac{1}{3} + \frac{4}{9} =$  \_\_\_\_\_

**Decimal Operations** (Hint: Rewrite and line up the decimals before adding.)

9.  $5.1 + 6.4 =$  \_\_\_\_\_

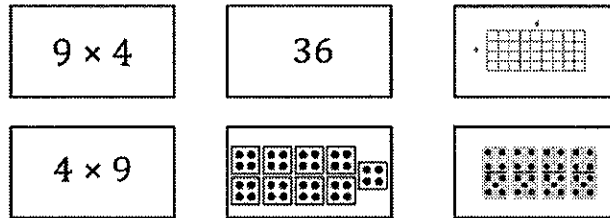
10.  $10.7 + 3.2 =$  \_\_\_\_\_

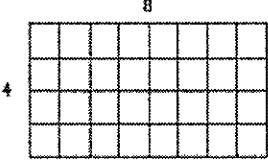
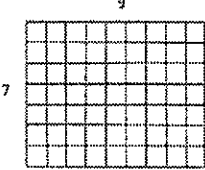
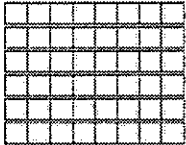
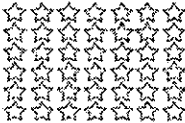
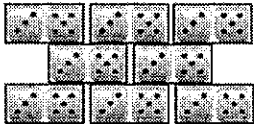
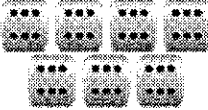
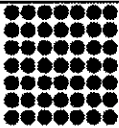
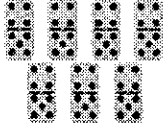
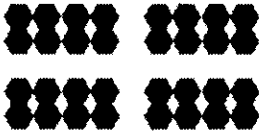
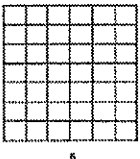
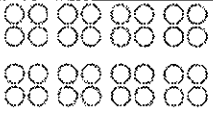
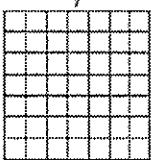
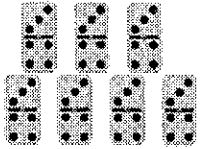
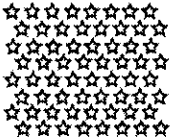

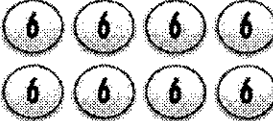
11.  $150.4 + 83.7 =$  \_\_\_\_\_

## Number Sense

Number sense is extremely important to math learning! The best mathematicians use numbers flexibly and creatively, so brush up your skills before school starts.

Look at the boxes below. Several boxes show the same numerical answer through different representations. Color all the boxes that show the same numerical answer with the same color. Here is an example of 36 in a variety of representations.



$9 \times 7$		63	
	$8 \times 6$		
$8 \times 8$		$6 \times 7$	49
	$7 \times 9$	$7^2$	
$7 \times 6$	$4 \times 8$		42
	64	$7 \times 7$	
$8^2$		$8 \times 4$	
			48

## Word Problems

1. Zeni is a snowboarder. She aced half of her tricks in a recent competition. On one-third of her tricks, she did okay. She wiped out on the rest. On what fraction of the tricks did Zeni wipe out?

$$1 - \left(\frac{1}{2} + \frac{1}{3}\right) = n \qquad n = \underline{\hspace{2cm}}$$

2. Over three weeks of practice Lydia ate 46 energy bars. The first week, she ate  $16\frac{3}{4}$  bars. In the second week, she ate the same amount as during the first. How many bars did she eat in the third week?

$$\left(16\frac{3}{4} + 16\frac{3}{4}\right) + n = 46 \qquad n = \underline{\hspace{2cm}}$$

Nakia makes energy shakes for his friends. One batch makes enough for four football players. Answer the following questions using the recipe at the side.

3. By mistake, Nakia put in  $2\frac{1}{2}$  times the amount of vanilla.  
How much vanilla was in the shake?
4. Nakia decided to multiply the amount of protein powder by 4 times.  
How much powder did he put in?
5. Nakia shared  $\frac{1}{5}$  of the total shake with a friend.  
How much milk would be in  $\frac{1}{5}$  of this shake?

