

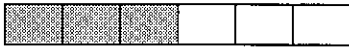
This year, we will focus on the work of becoming mathematicians. Mathematicians look for patterns, persevere in solving difficult problems, construct reasonable arguments, and work together. To do these things, we need some tools. This packet will help you sharpen your tools to be prepared for 6th grade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

Please complete each of these problems over the summer and **bring the completed packet with you on the first day of school.** This will be your first quiz grade of the year.

Fraction Operations

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

1.



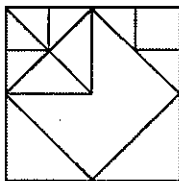
Shaded region = _____

2.



Shaded region = _____

3. Shade $\frac{1}{4}$ of the figure below. (The entire outer square represents one unit.)



Convert the mixed numbers into fractions greater than 1:

4. $1 \frac{1}{2} =$ _____

5. $3 \frac{5}{8} =$ _____

6. $14 \frac{2}{5} =$ _____

Convert the fractions into mixed numbers:

7. $\frac{45}{10} =$ _____

8. $\frac{8}{5} =$ _____

9. $\frac{26}{7} =$ _____

Add or Subtract:

10. $\frac{3}{8} + \frac{1}{8} =$ _____

11. $\frac{1}{3} + \frac{4}{9} =$ _____

12. $\frac{4}{5} - \frac{1}{10} =$ _____

13. $\frac{2}{3} - \frac{1}{6} =$ _____

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

14. $5.1 + 6.4 =$ _____

15. $10.7 + 3.2 =$ _____

16. $150.4 + 83.7 =$ _____

17. $27.6 - 15.4 =$ _____

18. $72.35 - 38.49 =$ _____

Word Problems

1. Grace 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 Grace wipe out?

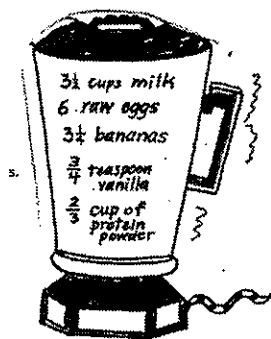
$$1 - \left(\frac{1}{2} + \frac{1}{3}\right) = n$$

$$n = \underline{\hspace{2cm}}$$

2. Over three weeks of practice Noa 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?

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

Coruan makes energy shakes for his friends. One batch makes enough for four football players. Answer the following questions using the recipe below.



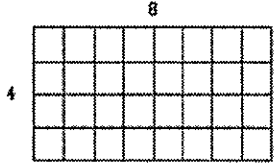
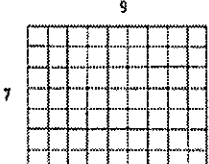
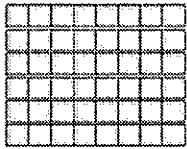
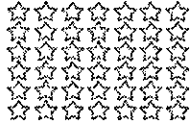
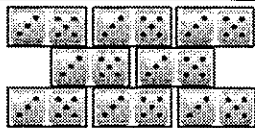
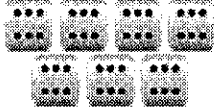
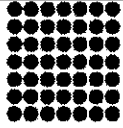
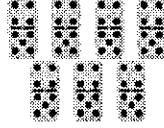

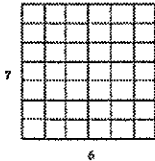
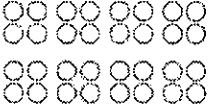
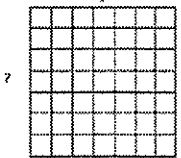
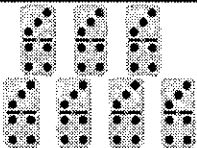
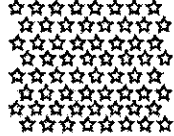
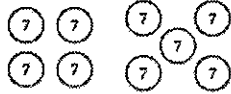
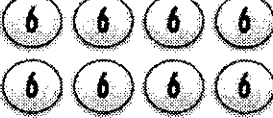
3. By mistake, Coruan put in $2\frac{1}{2}$ times the amount of vanilla. How much vanilla was in the shake?
4. Coruan decided to multiply the amount of protein powder by 4 times. How much powder did he put in?
5. Coruan shared $\frac{1}{5}$ of the total shake with a friend. How much milk would be in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

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.

Number	Color	Number	Color
32	red	49	green
42	orange	63	blue
48	yellow	64	purple

9×7		63	
	8×6		
8×8		6×7	49
	7×9	7^2	
7×6	4×8		42
	64	7×7	
8^2		8×4	
			48