

Shady Grove Middle School



Summer Math Packet Incoming C2.0 Math 6

Dear Student and Parent,

The purpose of this packet is to provide a review of objectives that were taught the previous school year and provide tasks related to the Common Core curriculum. Reviewing these materials will help your child retain what he/she has learned this year and assist them as they enter the next course in the sequence of study.

An answer key can be accessed online on our school website. This key can be used in one of the following ways:

- Have your child check his/her work after each assignment.
- Check your child's work after each assignment.
- Check the entire packet once it is finished.

Whichever way you choose to use the answer key, make sure your child identifies and corrects all mistakes. Please remind your child that **CALCULATORS SHOULD NOT BE USED** and **ALL WORK MUST BE SHOWN** for each activity. If work is completed on a separate paper, please submit the paper(s) with the packet.

The completed packet will be due the second Friday of the new school year. This will be recorded as a homework completion grade during the first marking period.

Thank you for your cooperation,

The SGM Math Department



1. Use addition multiplication, subtraction or division to solve the first set of math problems from pages 3 - 6 .

Add.

1

$$\begin{array}{r} 47 \\ + 32 \\ \hline \end{array}$$

5

$$\begin{array}{r} 678 \\ + 426 \\ \hline \end{array}$$

9

$$\begin{array}{r} 4389 \\ 3377 \\ + 1689 \\ \hline \end{array}$$

2

$$\begin{array}{r} 8 \\ 5 \\ + 1 \\ \hline \end{array}$$

6

$$\begin{array}{r} 2846 \\ + 1635 \\ \hline \end{array}$$

10

$$\begin{array}{r} 24,592 \\ + 46,268 \\ \hline \end{array}$$

Subtract.

1

$$\begin{array}{r} 47 \\ - 5 \\ \hline \end{array}$$

5

$$\begin{array}{r} 35 \\ - 8 \\ \hline \end{array}$$

9

$$\begin{array}{r} 776 \\ - 498 \\ \hline \end{array}$$

2

$$\begin{array}{r} 95 \\ - 31 \\ \hline \end{array}$$

6

$$\begin{array}{r} 652 \\ - 251 \\ \hline \end{array}$$

10

$$\begin{array}{r} 1904 \\ - 625 \\ \hline \end{array}$$

More Multiplication

Now we will study the multiplication algorithm with a 3-digit number on the bottom. This means we have three partial products to do, so the multiplication process takes three lines.

$$\begin{array}{r} \\ 429 \\ \times 227 \\ \hline 3003 \end{array}$$

First multiply
 7×429 , ignoring
the 2 and 2 in 227.

$$\begin{array}{r} \\ 429 \\ \times 227 \\ \hline 3003 \\ 8580 \end{array}$$

Next multiply 20×429 .
Place a zero in the
ones place, and then
multiply as if it was just
 2×429 .

$$\begin{array}{r} \\ 429 \\ \times 227 \\ \hline 3003 \\ 8580 \\ 85800 \end{array}$$

Then, 200×429 .
Since you are multiplying
by 200, place a zero in the
ones and in the tens places,
and then multiply 2×429 .

$$\begin{array}{r} 429 \\ \times 227 \\ \hline 3003 \\ 8580 \\ + 85800 \\ \hline 97383 \end{array}$$

Lastly add.

1. Multiply. Remember: you will need to place *two zeros* in the third line.

a.

| | | | | | |
|-------|--|---|---|---|---|
| | | | | | |
| | | | 1 | 9 | 1 |
| | | x | 2 | 4 | 5 |
| <hr/> | | | | | |
| + | | | | | |
| <hr/> | | | | | |
| | | | | | |

b.

| | | | | | |
|-------|--|---|---|---|---|
| | | | | | |
| | | | 4 | 0 | 9 |
| | | x | 2 | 2 | 8 |
| <hr/> | | | | | |
| + | | | | | |
| <hr/> | | | | | |
| | | | | | |

c.

| | | | | | |
|-------|--|---|---|---|---|
| | | | | | |
| | | | 2 | 4 | 6 |
| | | x | 1 | 3 | 7 |
| <hr/> | | | | | |
| + | | | | | |
| <hr/> | | | | | |
| | | | | | |

d.

| | | | | | |
|-------|--|---|---|---|---|
| | | | | | |
| | | | 8 | 1 | 5 |
| | | x | 7 | 2 | 3 |
| <hr/> | | | | | |
| + | | | | | |
| <hr/> | | | | | |
| | | | | | |

e.

| | | | | | |
|-------|--|---|---|---|---|
| | | | | | |
| | | | 2 | 0 | 7 |
| | | x | 8 | 0 | 3 |
| <hr/> | | | | | |
| + | | | | | |
| <hr/> | | | | | |
| | | | | | |

f.

| | | | | | |
|-------|--|---|---|---|---|
| | | | | | |
| | | | 1 | 2 | 5 |
| | | x | 6 | 6 | 2 |
| <hr/> | | | | | |
| + | | | | | |
| <hr/> | | | | | |
| | | | | | |

You can multiply a fraction with a fraction by multiplying the numerator with the numerator and the denominator with the denominator.

Example: $\frac{1}{2} \times \frac{6}{4}$ ← numerator
← denominator

$$\frac{1}{2} \times \frac{6}{4} = \frac{1 \times 6}{2 \times 4} = \frac{6}{8}$$

Write down the missing numerators or denominators in the multiplication equations below.

$$\frac{1}{2} \times \frac{1}{4} = \frac{1}{\square}$$

$$\frac{1}{5} \times \frac{3}{7} = \frac{3}{\square}$$

$$\frac{1}{2} \times \frac{3}{2} = \frac{\square}{4}$$

$$\frac{8}{9} \times \frac{5}{6} = \frac{\square}{54}$$

$$\frac{\square}{3} \times \frac{1}{5} = \frac{7}{15}$$

$$\frac{\square}{2} \times \frac{7}{8} = \frac{14}{16}$$

Complete the following expressions.

1.) $12 \times 3 - 5 + 4 =$

2.) $4 + 7 \times 2 - 8 =$

3.) $5 - 7 + 2 \times 10 =$

4.) $15 \div 3 + 8 \times 5 =$

5.) $11 \times 3 - 12 \div 4 =$

6.) $5 + 9 - 16 \div 2 =$

A Two-Digit Divisor 2

1. Divide. Use the space on the left to write a multiplication table of the divisor. Lastly check.

| | | |
|--------------------|---------------------------|--|
| $2 \times 37 = 74$ | a. $37 \overline{) 4107}$ | $\begin{array}{r} \times 37 \\ \hline \end{array}$ |
| | b. $58 \overline{) 4408}$ | $\begin{array}{r} \times 58 \\ \hline \end{array}$ |
| | c. $96 \overline{) 9792}$ | $\begin{array}{r} \times 96 \\ \hline \end{array}$ |

2. Several expressions are shown. Decide if the value of the expression is less than, equal to, or greater than 15. Write the expressions in the corresponding column of the table.

| Less than 15 | Equal to 15 | Greater than 15 |
|---------------------|--------------------|------------------------|
| | | |

$$2 \times \frac{1}{2} \times (5 \times 3)$$

$$(5 \times 3) \div 5$$

$$\frac{1}{4} \times (5 \times 3)$$

$$(5 \times 3) + 6$$

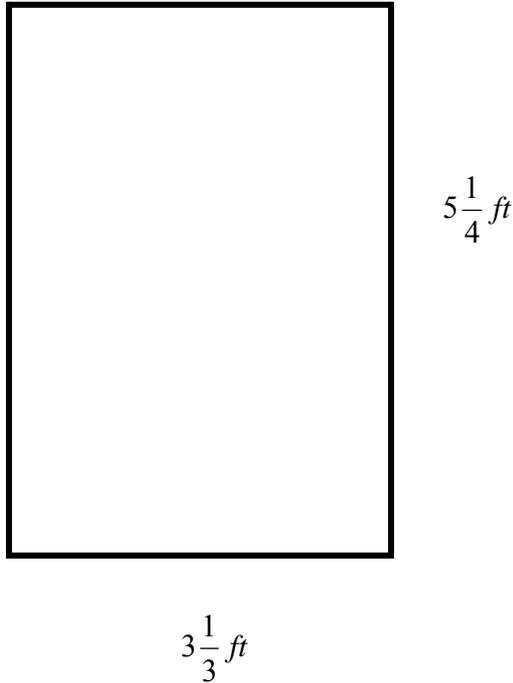
$$20 - (5 \times 3)$$

$$(5 \times 3) \times (8 - 7)$$

$$1 \times (5 \times 3)$$

$$2 \times (5 \times 3)$$

3. Rob is calculating the area of this rectangle. His strategy is to multiply the whole numbers first and then multiply the fractions. Since $3 \times 5 = 15$ and $\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$, he concludes that the area of the rectangle is $15\frac{1}{12}$ square feet. Is he correct? Explain your thinking.



4. Jen measured the growth of a sunflower.
- In week one, it grew $2\frac{1}{2}$ inches.
 - In week two, it grew $2\frac{3}{4}$ inches.
 - In week three, it grew $3\frac{1}{4}$ inches.

How much did the sunflower grow in the three weeks?

5. Look at the rectangle

$$4\frac{1}{2} \text{ cm}$$

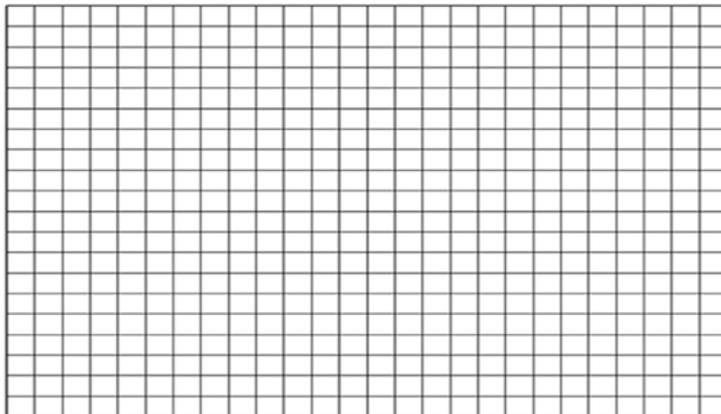


$$8\frac{1}{2} \text{ cm}$$

What is the area of the rectangle in square centimeters?

6. James folds a square piece of paper in half to create a rectangle with a perimeter of 12 inches.

Draw the original square on the grid. Then find the area of the RECTANGLE James creates.



7. At Maria's school, 6 classes are going on a field trip. Each class has 26 students and 1 teacher. Each bus holds a maximum of 48 people. The school requests 3 buses for the field trip.

Read Maria's argument below. Circle the statement in Maria's argument that has incorrect reasoning or inaccurate calculations.

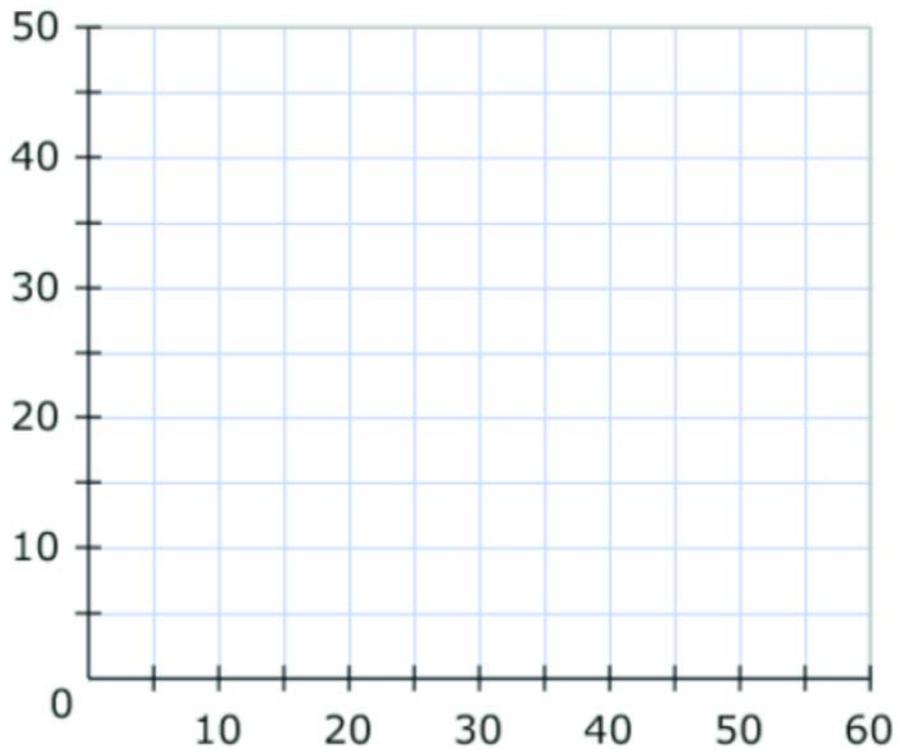
Then correct the statement.

- a. Maria says that 3 buses are not enough.
 - b. She argues that 3 buses will hold a maximum of 144 people.
 - c. The classes need space for 156 people.
 - d. The school needs to order 1 more bus.
8. Connor is buying tickets to a play. The play he and his friends want to see costs \$4.75 per ticket. Connor has \$26.00 in his pocket.

What is the greatest number of tickets Connor can buy?

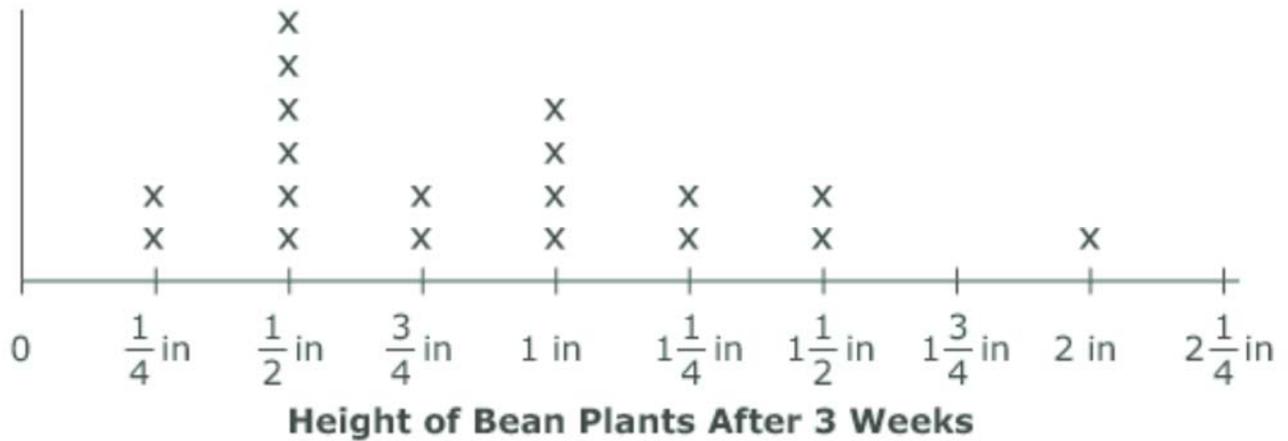
9. Which number is equal to 10^4 ?
- a. 100
 - b. 1,000
 - c. 10,000
 - d. 100,000

10. Draw a rectangle on the grid below with an area of 1575 square units and a side of 45 units.



11. A baker used 12 cups of batter to make muffins. It took $\frac{2}{3}$ cup of batter to make 1 muffin. How many muffins did the baker make?

12. This line plot shows the heights of the bean plants in a garden after 3 weeks.



What is the total height, in inches, of all the bean plants that are taller than 1 inch?

13. William used 6 squares to make the figure shown.

A. Add a square so that the perimeter increases



B. Add a square so that the perimeter stays the same.

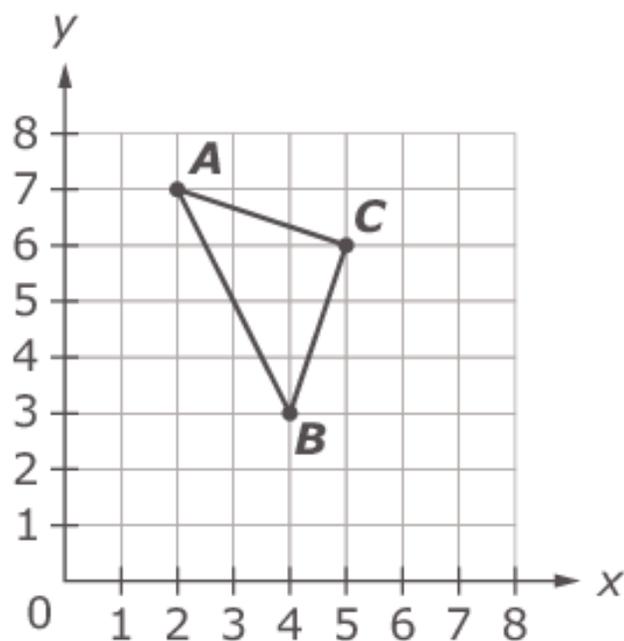


C. Add a square so that the perimeter decreases.



14.

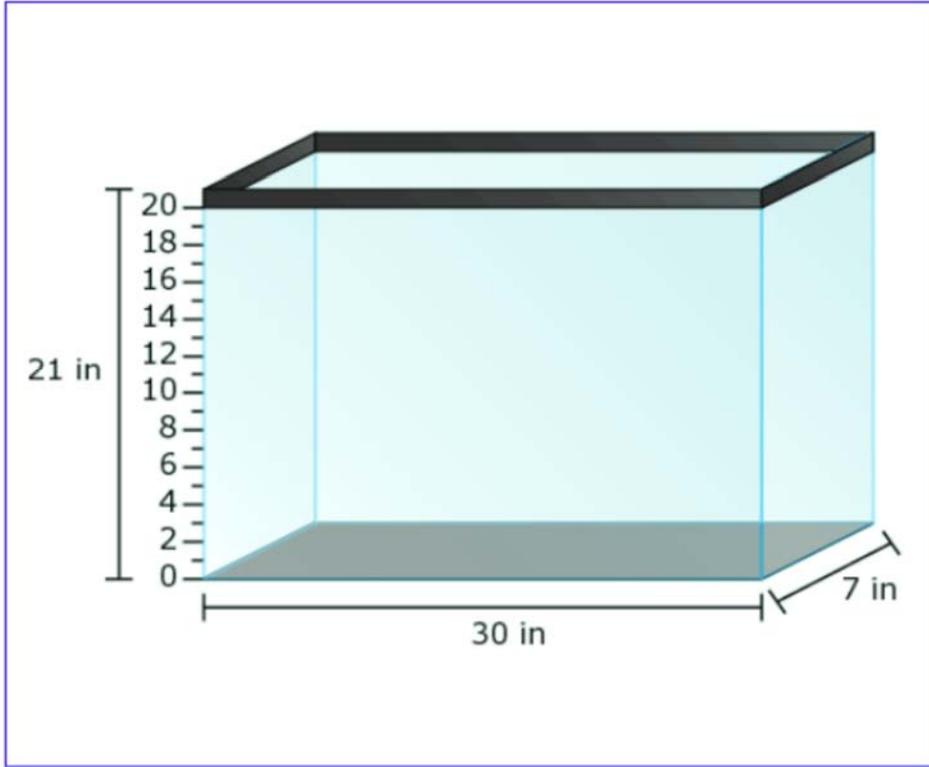
Look at triangle ABC .



What are the coordinates of points A , B , and C ?

- Ⓐ $A(2, 7), B(4, 3), C(5, 6)$
- Ⓑ $A(2, 7), B(5, 6), C(4, 3)$
- Ⓒ $A(7, 2), B(3, 4), C(6, 5)$
- Ⓓ $A(7, 2), B(4, 3), C(5, 6)$

15. Walter puts 1050 cubic inches of dirt into the tank shown. What will the height be of the dirt level in this tank?



16. Jeff measures his desk. He does not have a ruler, but he know that the length of the tissue box is 9 inches and the width is 5 inches. Use the tissue box to estimate the area of the desk surface.

Jeff's Desk



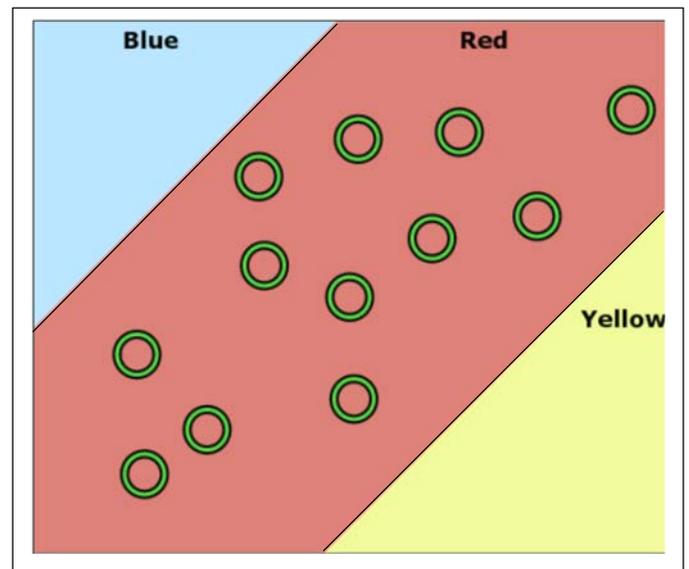
Key
1 tissue box 

area = in.²

17. In a game at a carnival, a person throws rings onto a table with different colors painted on it. Each color has different point values as shown.

- Blue: 5 points
- Red: 3 points
- Yellow: 2 points
-

Hailey plays the game. Exactly 12 rings thrown by Hailey landed in the red section. She keeps throwing more rings. She eventually scores 55 points.



How many rings landed on the blue and yellow areas so that Hailey scored 55 points?

18. Tyler is 8 years old. His sister Olivia is 4 years less than twice his age. Write the numerical expression for Olivia's age.

19. Find two fractions that can be added using the denominator 24. Write those two fractions in the box.

| Like Denominator = 24 |
|-----------------------|
| |

$$\frac{1}{6}$$

$$\frac{1}{5}$$

$$\frac{3}{16}$$

$$\frac{5}{7}$$

$$\frac{9}{10}$$

$$\frac{1}{9}$$

$$\frac{7}{8}$$