



RISING MATH 6

Summer 2022



Greetings Rising 6th Grader and Welcome to Math 6!

The purpose of this summer school packet of mathematics problems is to provide you the opportunity to review material that you may have learned last year, to give you a great start to the upcoming 2022 - 2023 school year.

We want to encourage you to at least try some of the problems. And, you can work on this packet in one sitting, or do some problems one day, and come back to other problems on other days; it is completely up to you! Instead, try to do one or two problems a day.

We hope that you have a wonderful summer and are looking forward to the upcoming school year.

Sincerely,

Montgomery County Public Schools Secondary Mathematics Team

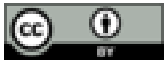
Rising Grade 6 Summer Review Packet

1.
 - a) Four hikers equally share three liters of water. How many liters of water does each hiker drink? Explain or show your reasoning.

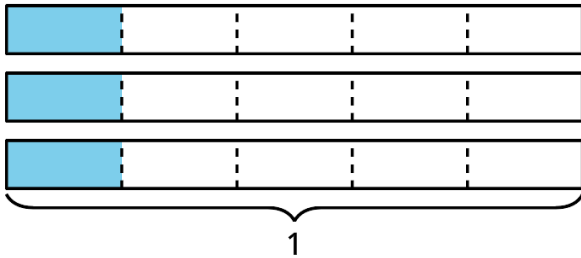
 - b) Four hikers equally share five liters of water. How many liters of water does each hiker drink? Explain or show your reasoning.

2.
 - a) Jada cuts an 11-inch strip of paper into five equal parts. How many inches long is each part?

 - b) Jada cuts a strip of paper into five equal parts. Each part is $\frac{7}{5}$ inches long. How long was the strip of paper?



3. a) Describe a situation that the diagram could represent.



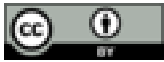
b) Write an equation that represents the diagram and the situation.

4. Decide whether each equation is true or false. Explain or show your reasoning.

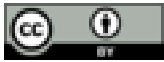
a) $3 \div 7 = \frac{3}{7}$.

b) $18 \div 5 = \frac{5}{18}$.

c) $15 \div 6 = 2\frac{1}{2}$.



5. Elena is traveling to visit her grandparents who live 125 miles away.
- Elena stops for lunch $\frac{2}{3}$ of the way. How far has Elena traveled? Explain or show your reasoning.
 - Elena enters the city where her grandmother lives after 110 miles. Is she more or less than $\frac{9}{10}$ of the way there? Explain or show your reasoning.
6. a) Describe a situation that represents the equation $4 \div 6 = \frac{4}{6}$.
- b) Draw a diagram to represent the situation.



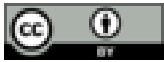
7. Han cuts a 15-foot piece of rope into 4 equal parts. Decide whether each expression represents the length of each part of the rope in feet. Explain or show your reasoning.

a) $15 \div 4$

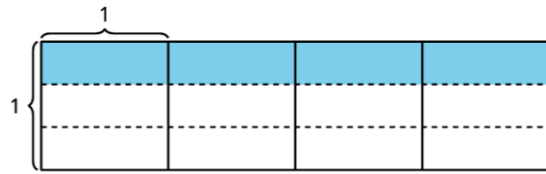
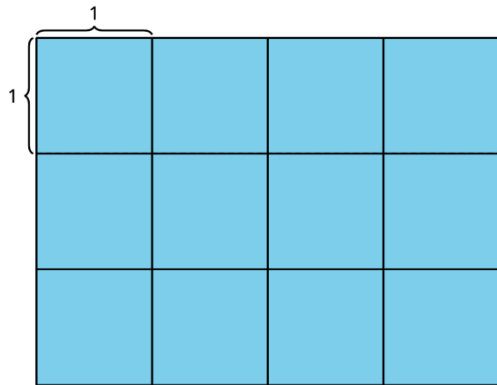
b) 4×15

c) $3\frac{3}{4}$

8. Kiran ran $\frac{1}{5}$ the length of his road, which is 9 miles long. How far did Kiran run? Show or explain your thinking.



9. Consider the two figures below:



a) How are the diagrams the same? How are they different?

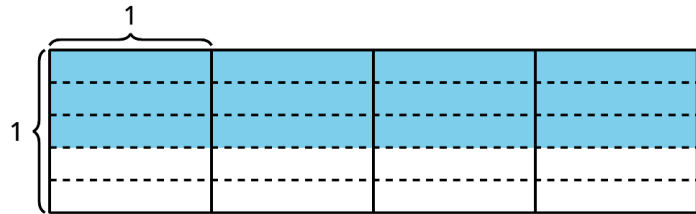
b) How is finding the area of the shaded region the same? How is it different?



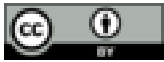
10. a) What is the area of this rectangle? Explain or show your reasoning.



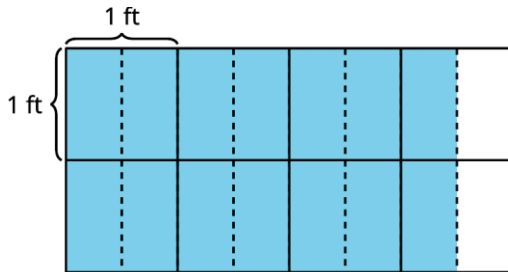
b) What is the area of the shaded region? Explain or show your reasoning.



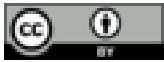
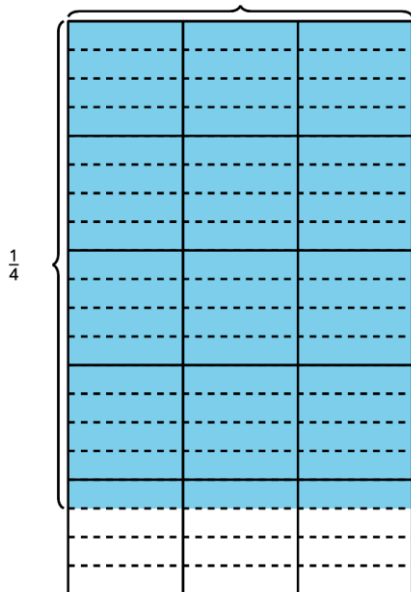
c) How are these two area calculations the same? How are they different?



11. The shaded part of this diagram shows the top of a stove. What is the area of the stove top? Explain or show your reasoning



12. Find the area of the shaded region. Explain your reasoning:



13. Select **all** of the expressions that represent the shaded area below in square feet.

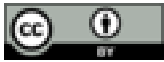
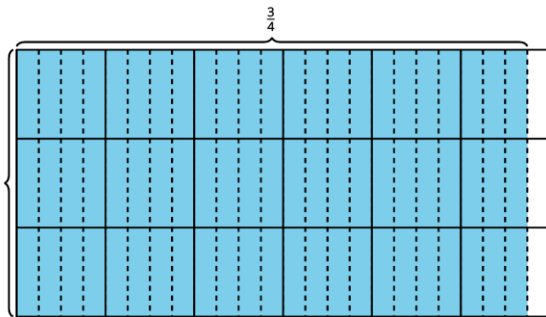
A. $3 + 5\frac{3}{4}$

B. $3 \times 5\frac{3}{4}$

C. $3 \times \left(5 + \frac{3}{4}\right)$

D. $(3 \times 5) + \frac{3}{4}$

E. $3 \times 6 - \left(3 \times \frac{1}{4}\right)$

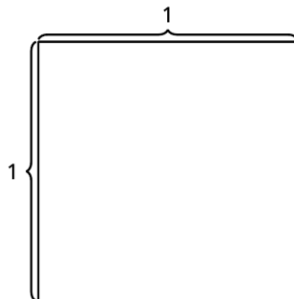


14. Evaluate each expression. Explain or show your reasoning.

a) $3\frac{2}{5} \times 10$

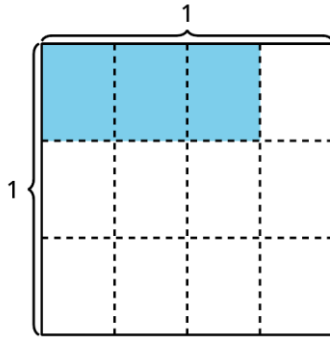
b) $8 \times \frac{14}{3}$

15. a) Shade $\frac{1}{2}$ of $\frac{1}{5}$ of the square.



b) Explain where you see $\frac{1}{2}$ of $\frac{1}{5}$ in your drawing.

16. a) Write an expression for the shaded region of the square.



b) Explain how your expression matches the shaded region.

17. Find the value that makes each equation true.

a) $\frac{7}{10} \times \frac{3}{5} = \underline{\hspace{2cm}}$

b) $\frac{2}{5} \times \underline{\hspace{2cm}} = \frac{8}{45}$

c) $\underline{\hspace{2cm}} \times \frac{4}{9} = \frac{28}{45}$

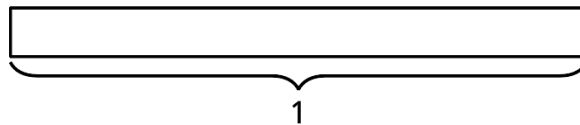
18. This flag of Sweden is $3\frac{1}{5}$ inches wide and 2 inches tall. The rectangle in the upper right is $\frac{9}{5}$ inches wide and $\frac{4}{5}$ inch tall.



a) What is the area of the entire flag?

b) What is the area of the rectangle in the upper right?

19. a. Use the diagram to represent the expression $\frac{1}{5} \div 2$.



b. Explain how the diagram shows $\frac{1}{5} \div 2$.

c. What is the value of $\frac{1}{5} \div 2$

20. Mai has a strip of paper that is 3 feet long. She cuts it into $\frac{1}{4}$ foot strips.

a) How many $\frac{1}{4}$ foot strips does Mai make? Explain or show your reasoning.

b) Write a division equation to represent your answer.

21. Find the value of each expression.

a) $5 \div \frac{1}{4}$

b) $6 \div \frac{1}{4}$

c) $3 \div \frac{1}{6}$

d) $3 \div \frac{1}{7}$



22. Solve each problem. Write an equation showing your answer.

- a) The container holds $\frac{1}{2}$ gallon of water. It is $\frac{3}{4}$ full. How many gallons of water are in the container?
- b) The container has $\frac{1}{2}$ gallon of water. 6 friends split the water equally. How many gallons of water does each friend get?
- c) The container has 1 gallon of water. Each bottle holds $\frac{1}{8}$ of a gallon. How many bottles of water does the container hold?

23. Using the numbers 4, 5, 6, 7, 8, or 9, what is the largest product you can make?

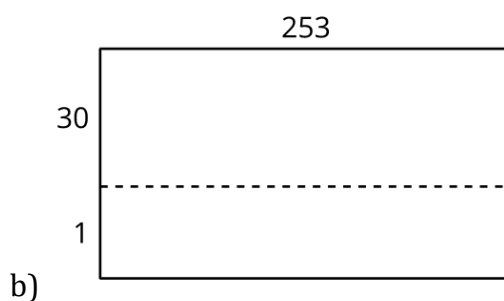
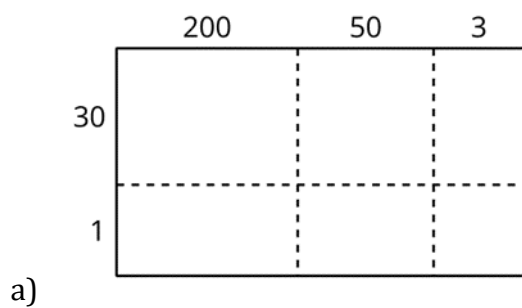
$$\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} \times \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array}$$

You can use each number at most once. Explain or show your reasoning.



24. Clare has 5 yards of ribbon. It takes $\frac{1}{2}$ yard to make a bow. How many bows can Clare make with the ribbon? Write a multiplication and a division equation showing the solution.

25. Complete the diagrams and use each of them to find 253×31 .



How are the strategies the same? How are they different?