

Math



Grade 5 ADV

Term 3



FRQ



FRQ - 2014-2015

1

Represent Division of Unit Fractions by Non-Zero Whole Numbers
Divide Unit Fractions by Non-Zero Whole Numbers

3 - 10

147 - 148

9 - 12

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2

Solve Multi-Step Problems Involving Measurement Units

6 - 10

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Represent Problems on a Coordinate Plane

Learn

206

1 - 10

207 - 208

4

Evaluate Numerical Expressions

5 - 10

241





3. $\frac{1}{8} \div 3 = \underline{\hspace{2cm}}$

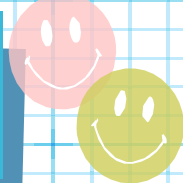
4. $\frac{1}{4} \div 2 = \underline{\hspace{2cm}}$

5. $\frac{1}{5} \div 5 = \underline{\hspace{2cm}}$

6. $\frac{1}{3} \div 2 = \underline{\hspace{2cm}}$

7. Juanita shares the mixed nuts equally among herself and 3 friends. What fraction of a pound of nuts does each person receive?



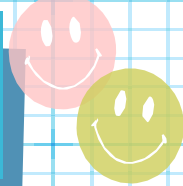


8. Raymond has $\frac{1}{3}$ gallon of water. He shares the water equally among his 3 hamsters. How much water will each hamster get?

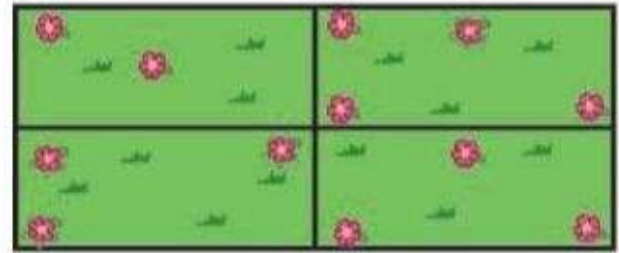
9. A baker divides $\frac{1}{2}$ pound of wheat flour equally for 3 loaves of bread. What fraction of a pound is in each loaf?

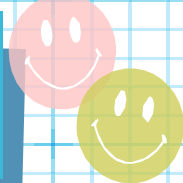
10. **STEM Connection** Antonio is trying to determine the speed of his robot before his next competition. He measures that the robot moves $\frac{1}{2}$ foot in 5 seconds. How far does his robot move each second?





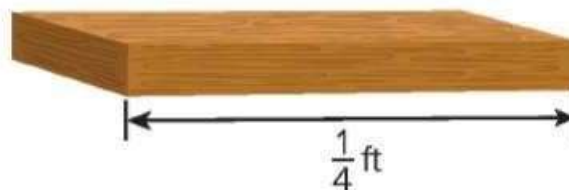
9. A garden has an area of $\frac{1}{10}$ acre. What fraction of an acre is each of the 4 sections?



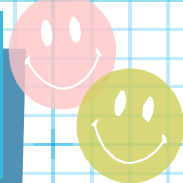


- 10. Error Analysis** Peter buys $\frac{1}{4}$ pound of ham. Peter says that if he makes 2 ham sandwiches, each will have $\frac{1}{2}$ pound of ham. Is Peter correct? Explain why or why not.

- 11.** Theo cuts this board into 4 equal sections. What is the length of each section?



- 12.** Sasha spends $\frac{1}{2}$ of each school day in math class, science class, and history class. If the time spent in each class is the same, what fraction of the school day does Sasha spend in math class?



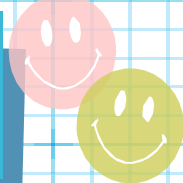
6. Robin is selling lemonade. She makes 3 liters of lemonade and sells glasses of 250 milliliters of lemonade each. In the first hour, she sells 6 glasses of lemonade. How many liters does she have left?

7. Brian is walking to his friend's house that is 2.6 kilometers away. He stops when he is $\frac{7}{8}$ of the way there. How many meters does he still have to walk?

8. Nell is aiming to drink the amount of water shown per day. By 3 p.m., she is $\frac{3}{4}$ of the way to her goal. How many more fluid ounces does she need to drink to reach her goal?

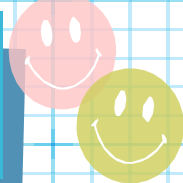


8 cups per day



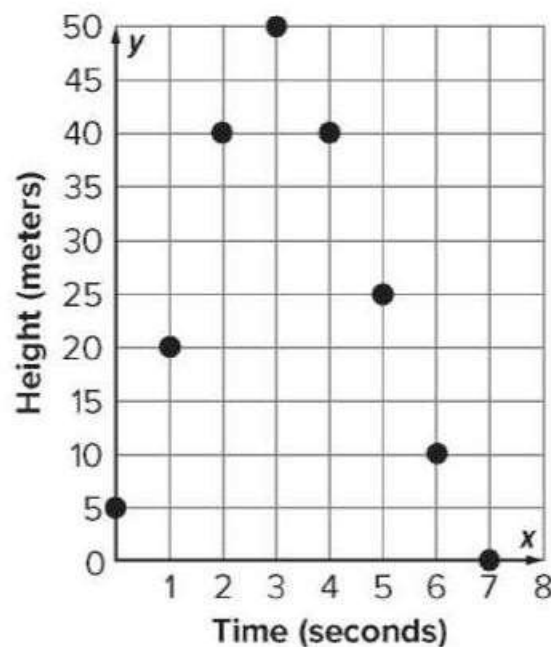
9. Tyler wants to send his cousin 5 books that are each 1,500 grams. He has a box that can hold up to 6 kilograms. Will Tyler be able to use the box he has? Explain.

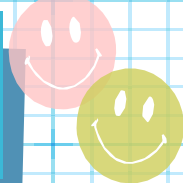
10. Gina is growing a houseplant. When she measures it at the beginning of the month, it is 3 feet tall. When she measures it at the end of the month, it is $1\frac{1}{4}$ the size it was at the beginning of the month. How many inches did the houseplant grow?



Work Together

This graph represents the beginning of a rollercoaster ride. What do you think happened between 2 seconds and 4 seconds?

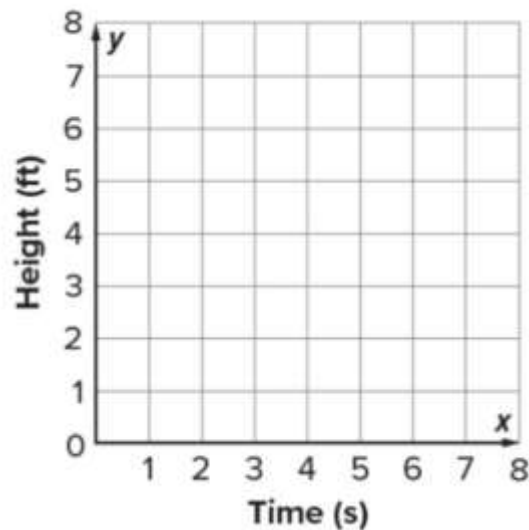




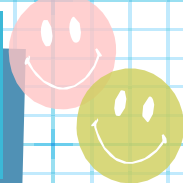
1. The table shows the time it took for a fifth-grade student to go down the slide at a park and their height from the ground while going down the slide. Write the time and corresponding heights as ordered pairs.

Time (seconds)	Height (feet)
0	7
1	5
2	4
3	3
4	2
5	1

2. Plot and connect the points on a coordinate plane.
3. How tall is the slide?
4. How long does it take for the student to go down the slide?



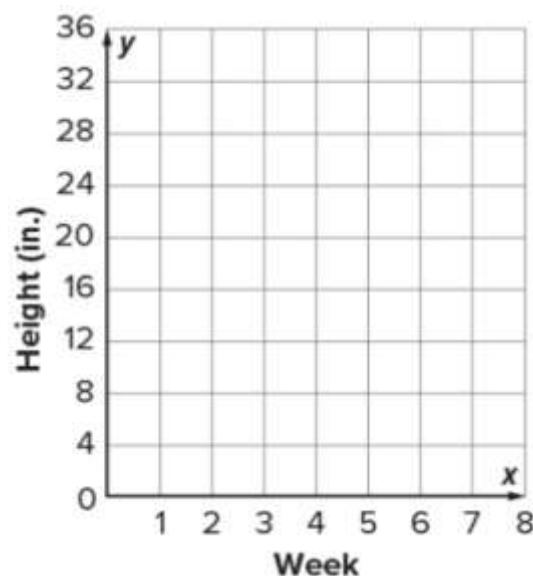
5. What happens between 0 seconds and 1 second?
6. Where is the student after 5 seconds?

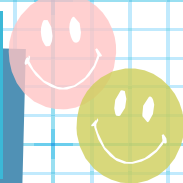


- 7. STEM Connection** Poppy measures the height of a plant over several weeks and records it in the table. The plant is 14 inches tall before she begins recording. Write the weeks and corresponding heights as ordered pairs.

Week	Height (inches)
1	16
2	20
3	22
4	22
5	28
6	32

- 8.** Plot and connect the points on the coordinate plane.
- 9.** How much does the plant grow between Weeks 1 and 2?
- 10.** What happens between Weeks 3 and 4?





What is the solution? Show your work.

5. $3 + 7 \times 2 = \underline{\hspace{2cm}}$

6. $(3 + 7) \times 2 = \underline{\hspace{2cm}}$

7. $56 \div 8 - 3 + 2 \times 5 = \underline{\hspace{2cm}}$

8. $56 \div (8 - 3 + 2) \times 5 = \underline{\hspace{2cm}}$

9. $2\frac{3}{8} + 1\frac{1}{4} \times 6\frac{3}{4} - \frac{1}{2} = \underline{\hspace{2cm}}$

10. $5.8 \times (6.75 + 3.25) \div 2 = \underline{\hspace{2cm}}$



Describe a relationship between corresponding terms in Patterns A and B.

1. Pattern A starts at 0 and adds 4 to each term.
Pattern B starts at 0 and adds 2 to each term.
2. Pattern A starts at 0 and adds 3 to each term.
Pattern B starts at 0 and adds 9 to each term.
3. Pattern A starts at 0 and adds 20 to each term.
Pattern B starts at 0 and adds 5 to each term.

Use the table to answer Exercises 4–6.

4. Fill in the unknown terms in the table.
5. What is a relationship between the corresponding terms in Patterns A and B?

Pattern A + 2	Pattern B + 8
0	
2	
	16
8	

6. If a term in Pattern A is 20, what will be its corresponding term in Pattern B?

7. Pattern A starts at 0 and adds 1 to each term. Pattern B starts at 0 and adds 6 to each term. If 5 is a term in Pattern A, what is its corresponding term in Pattern B?
8. Pattern A starts at 0 and adds 4 to each term. Pattern B starts at 0 and adds 8 to each term. If 24 is a term in Pattern A, what is its corresponding term in Pattern B?
9. Pattern A starts at 0 and adds 3 to each term. Pattern B starts at 0 and adds 12 to each term. If 72 is a term in Pattern B, what is its corresponding term in Pattern A?
10. **STEM Connection** Saffron is baking bread. She wrote these numerical patterns to record the amount of water and flour needed.
Water (in cups): 3, 4, 5, 6, ...
Flour (in cups): 6, 8, 10, 12, ...
How many cups of water is needed when using 48 cups of flour?





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On My Own



Name _____

1. Marie equally divides 6 bags of soil into these flowerpots. How many bags of soil are in each pot?



Complete the equation.

2. $\frac{\quad}{\quad} \div \frac{\quad}{\quad} = \frac{5}{9}$

3. $\frac{\quad}{\quad} \div \frac{\quad}{\quad} = \frac{13}{4}$

4. $3 \div 8 = \frac{\quad}{\quad}$

5. $7 \div 9 = \frac{\quad}{\quad}$

6. $\frac{\quad}{\quad} \times 7 = 7 \div 3$

7. $\frac{1}{4} \times 5 = 5 \div \frac{\quad}{\quad}$

8. A farmer pours 3 pounds of chicken feed equally into 4 bags. What is the weight of the chicken feed in each bag?

- A. $\frac{3}{4}$ pound
- B. $1\frac{3}{4}$ pounds
- C. $\frac{4}{3}$ pounds
- D. $1\frac{1}{4}$ pounds

9. An artist divides 4 pounds of clay equally into 3 containers. What is the weight of the clay in each container? Circle all correct answers.

- A. $1\frac{1}{4}$ pounds
- B. $1\frac{1}{3}$ pounds
- C. $\frac{3}{4}$ pound
- D. $\frac{4}{3}$ pounds



Solve each problem. If there is a remainder, decide how to represent and interpret the remainder.

- Grace walked the number of miles shown over the course of 7 days. She walked the same number of miles each day. How many miles did she walk each day?



- There were 210 balloons at a fair. Each of the 50 children that attended the fair got the same number of balloons. How many balloons did each child get?
- Dawn made 50 bracelets. She gave each of her 12 friends the same number of bracelets. How many bracelets did Dawn give to each of her friends?

Would you write the quotient for the problem with a remainder or as a mixed number?

- | | |
|---|--|
| 4. Equal amounts of juice are poured into different glasses.
A. remainder
B. mixed number | 5. The same number of books must be put on each shelf.
A. remainder
B. mixed number |
| 6. A dog is fed the same amount of food every day.
A. remainder
B. mixed number | 7. Someone gives out the same number of flowers to each of 5 friends.
A. remainder
B. mixed number |



What is the quotient? Use a representation to solve.

1. $6 \div \frac{1}{3} = \underline{\hspace{2cm}}$

2. $9 \div \frac{1}{4} = \underline{\hspace{2cm}}$

3. $7 \div \frac{1}{8} = \underline{\hspace{2cm}}$

4. $5 \div \frac{1}{5} = \underline{\hspace{2cm}}$

5. $4 \div \frac{1}{2} = \underline{\hspace{2cm}}$

6. $2 \div \frac{1}{9} = \underline{\hspace{2cm}}$

7. $4 \div \frac{1}{6} = \underline{\hspace{2cm}}$

8. $3 \div \frac{1}{10} = \underline{\hspace{2cm}}$

9. Jamal cuts the board into pieces that are each $\frac{1}{2}$ foot long. How many pieces does he have?



7 ft



What is the quotient?

1. $3 \div \frac{1}{5} = \underline{\hspace{2cm}}$

2. $6 \div \frac{1}{3} = \underline{\hspace{2cm}}$

3. $4 \div \frac{1}{4} = \underline{\hspace{2cm}}$

4. $7 \div \frac{1}{2} = \underline{\hspace{2cm}}$

5. $12 \div \frac{1}{3} = \underline{\hspace{2cm}}$

6. $9 \div \frac{1}{5} = \underline{\hspace{2cm}}$

7. $6 \div \frac{1}{6} = \underline{\hspace{2cm}}$

8. $10 \div \frac{1}{10} = \underline{\hspace{2cm}}$

9. $8 \div \frac{1}{7} = \underline{\hspace{2cm}}$



Which operation will you use for the conversion?
Explain your reasoning.

1. cups to fluid ounces

2. hours to days

Complete the conversion.

3. 36 in. = _____ ft

4. 2 T = _____ lb

5. 16 pt = _____ gal

6. 3 yr = _____ mo

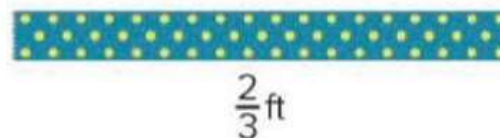
7. 48 oz = _____ lb

8. 4 hr = _____ min



9. A basketball court is 84 feet long. How does 84 feet compare to 30 yards? Explain how you know.

10. James needs this much ribbon for an art project. How many inches of ribbon does he need?



11. During a reading contest, Mike read for a total of 120 hours. How many days is equal to 120 hours?



Which operation should you use for the conversion?
Explain your answer.

1. milligrams to grams

2. meters to centimeters

Complete the conversion.

3. 3 L = mL

4. 100 mL = L

5. 500 kg = g

6. 6 km = m

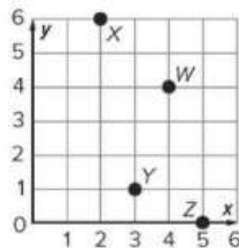
7. 70 mg = g

8. 800 kL = L



Use the coordinate plane to answer exercises 1–7.

1. What ordered pair describes point W ?



2. What ordered pair describes point X ?

3. What ordered pair describes point Y ?

4. What ordered pair describes point Z ?

5. What ordered pair describes the origin?

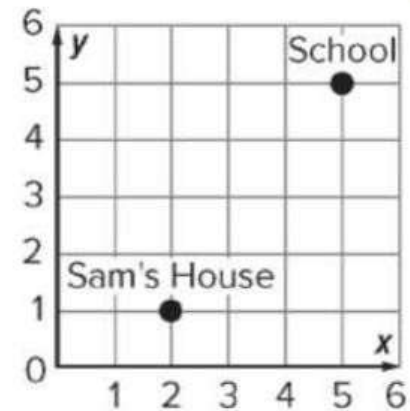
6. How did you find the x -coordinate for each ordered pair?

7. How did you find the y -coordinate for each ordered pair?



Work Together

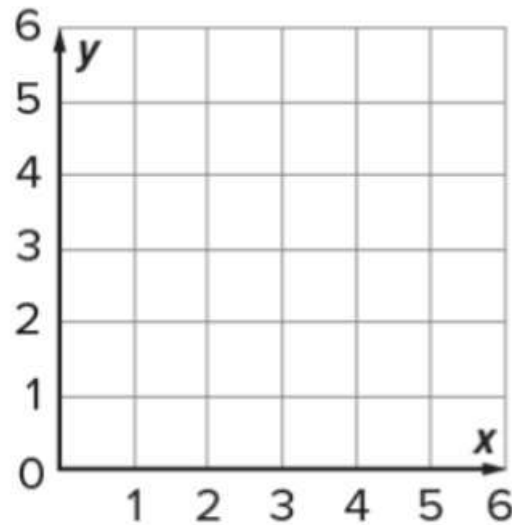
What steps would you take to plot the points for the Park and Jeremy's House?



Plot and label the point for each place shown in the table.

Place	Ordered Pair
Playground	(4, 6)
Post Office	(1, 2)
Fire Station	(5, 3)
Jill's House	(2, 4)

1. Playground
2. Post Office
3. Fire Station
4. Jill's House



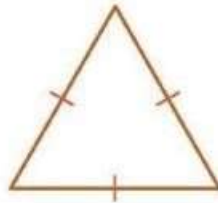
Classify each triangle by using their properties.

1.



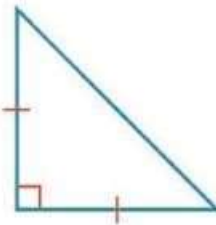
isosceles; acute

2.



equilateral or isosceles; acute

3.



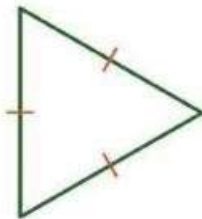
isosceles; right

4.



scalene; obtuse

5.



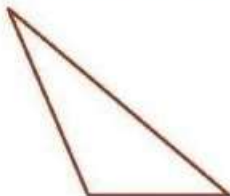
equilateral; acute

6.



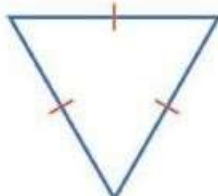
isosceles; acute

7.



scalene; obtuse

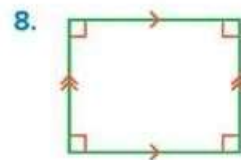
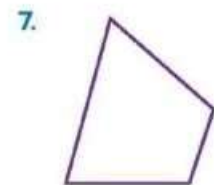
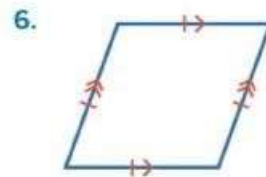
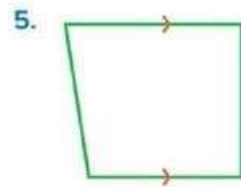
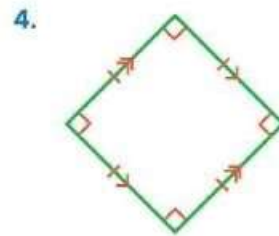
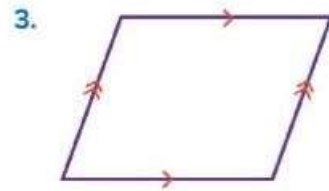
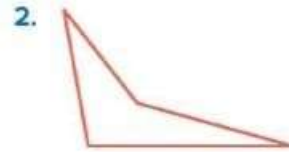
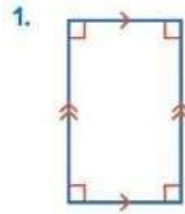
8.



equilateral or isosceles; acute



Classify each figure by using their properties.





Work Together

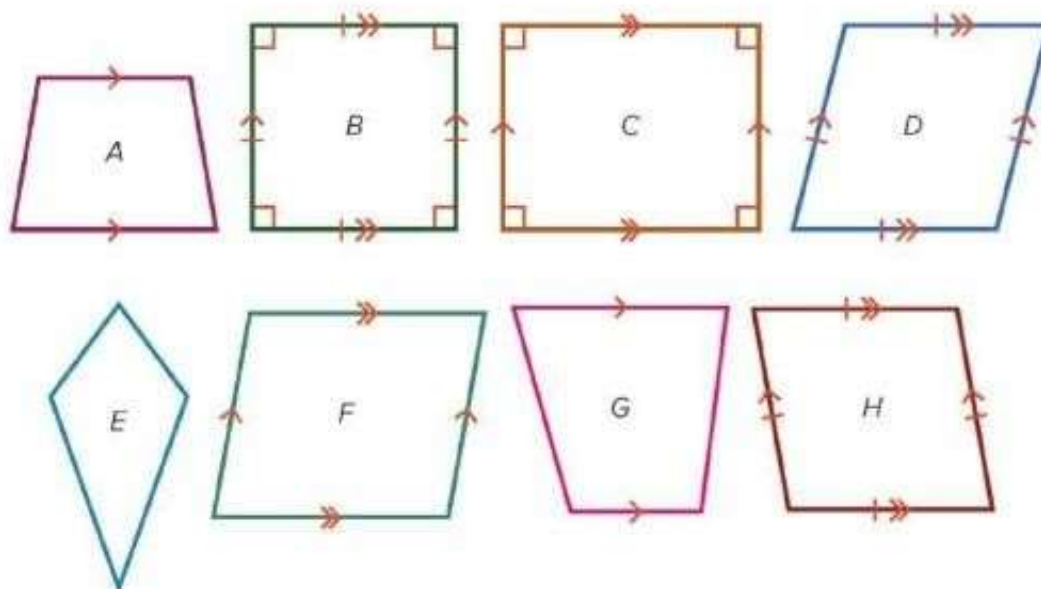
Are the following statements *always true*, *sometimes true*, or *never true*?

A trapezoid is a parallelogram. **never true**

A square is a rhombus. **always true**



Use the figures for Exercises 1–8. Identify the figures that could be classified into each subcategory.



1. quadrilaterals

Figures A, B, C, D, E, F, G, H

3. parallelograms

Figures B, C, D, F, H

5. rhombuses

Figures B, D, H

2. trapezoids

Figures A, G

4. rectangles

Figures B, C

6. squares

Figure B



- 9. STEM Connection** Hanna is helping cut some sheets of metal. She needs to cut them so that they have 4 sides with two pairs of parallel sides. Some need to have 4 right angles and some do not. How can she classify the sheets of metal?

The sheets with 4 right angles can be classified as rectangles and the sheets without right angles can be classified as parallelograms.



- 10.** Which quadrilaterals always have 4 right angles?
squares and rectangles
- 11.** Which quadrilaterals always have exactly 1 pair of parallel sides?
trapezoids
- 12.** Which quadrilaterals always have 4 sides of equal length?
rhombuses and squares



What numerical expression represents the description?

1. Divide 40 by 5. Then, subtract 2.
2. Multiply 4 and 8. Then, add 7.
3. Add $2\frac{1}{2}$ and $4\frac{2}{3}$. Then, subtract $\frac{1}{8}$.
4. Add 4.8 and 5.6. Then, subtract the sum from 16.9.
5. Subtract $4\frac{1}{4}$ from $10\frac{2}{5}$. Then, divide by 3.
6. Subtract 8 from 32. Then, divide 48 by the difference.
7. Add 6.7 and 8.25. Then, multiply by 11.2.
8. Divide 24 by 6. Multiply 5 and 7. Then, add the quotient and the product.



Which operation will you perform first to evaluate the expression?
Explain your reasoning.

1. $25 - 5 \times (4 - 3)$

subtraction

2. $37 + 8 \div 2 - 5$

division

3. $\frac{3}{4} \times (2\frac{1}{2} + 6\frac{1}{4})$

addition

4. $100 \times 4 + 6 - 10$

multiplication

Quentin and Tyler are running laps on the school track. Each time they complete a lap, they do jumping jacks.

They both do 0 jumping jacks after the first lap.

Each lap, Quentin adds 1 jumping jack to the number of jumping jacks he did after the lap before.

Each lap, Tyler adds 4 jumping jacks to the number of jumping jacks he did after the lap before.

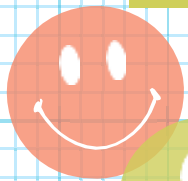
1. What is the rule for Quentin's numerical pattern?
2. What is the rule for Tyler's numerical pattern?
3. Write the first 5 terms of Quentin's numerical pattern.
4. Write the first 5 terms of Tyler's numerical pattern.
5. When Quentin does 4 jumping jacks after a lap, how many jumping jacks will Tyler do after that same lap?
6. What is a relationship between corresponding terms in the two numerical patterns?
7. How many jumping jacks will Tyler do after the lap when Quentin does 8 jumping jacks?
8. How many jumping jacks will Quentin do after the lap when Tyler does 40 jumping jacks?



Math



Thank you



ALL THE BEST