

Session 3

Word Problems

Amy has 8 apples. Ben has 2 more apples than Amy.
How many apples does Ben have?

$$8 + 2 = 10$$

Amy has 8 apples. Ben has 2 fewer apples than Amy.
How many apples does Ben have?

$$8 - 2 = 6$$

Amy has 8 apples. Ben has 2 apples.
How many apples do Amy and Ben have in all?

$$8 + 2 = 10$$

Amy has 8 apples. She has 2 more apples than Ben.
How many apples does Ben have?

—

Amy has 8 apples. She has 2 fewer apples than Ben.
How many apples does Ben have?

—

Amy has 8 apples. She and Ben have 10 apples in all.
How many apples does Ben have?

—

Amy's apple weighs 8 oz. It weighs 2 less than Ben's.
How much does Ben's apple weigh?

—

Amy has 8 apples. She and Ben have 10 altogether.
How many apples does Ben have?

—

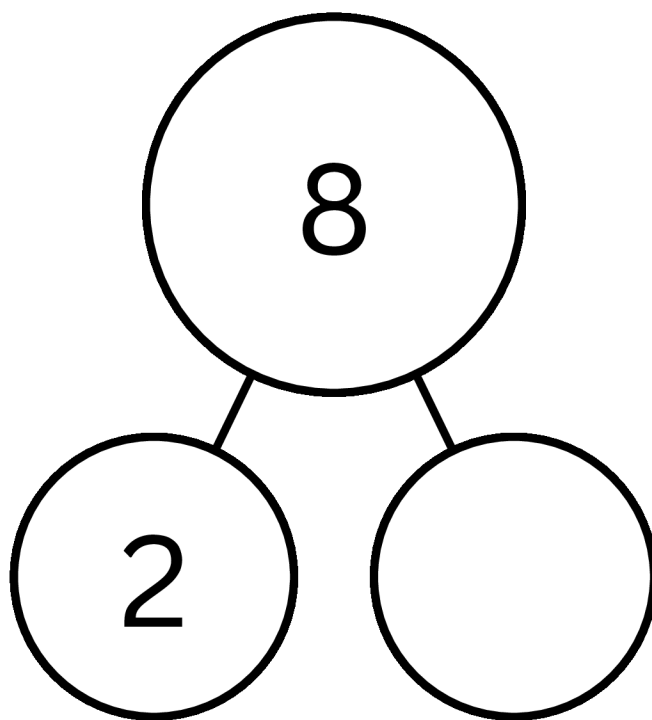
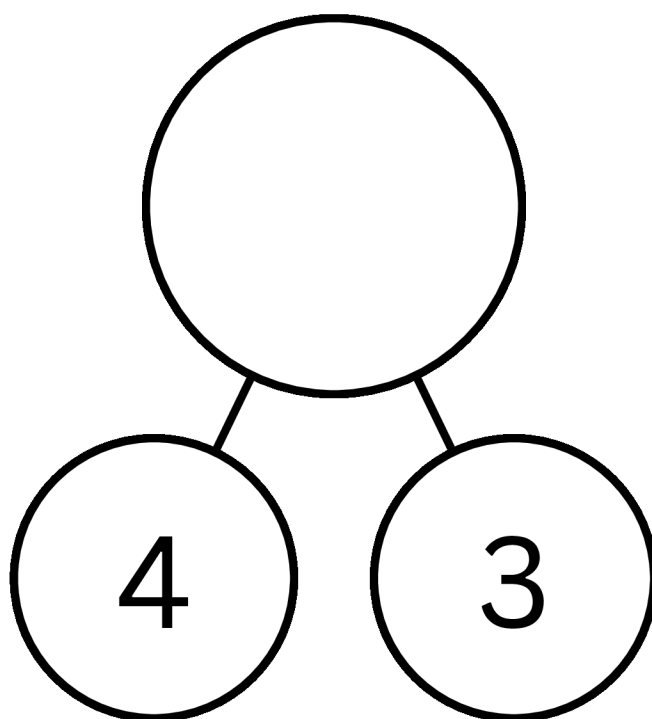
Amy

Ben

Amy has 8 apples. ~~Ben~~ has 2 more apples than ~~Amy~~.
How many apples does Ben have?

$$8 + 2 = 10$$

$$8 - 2 = 6$$



Keywords: tangmath.com/howmuch?legacy

Difficulty Levers: Type, Numbers, Steps

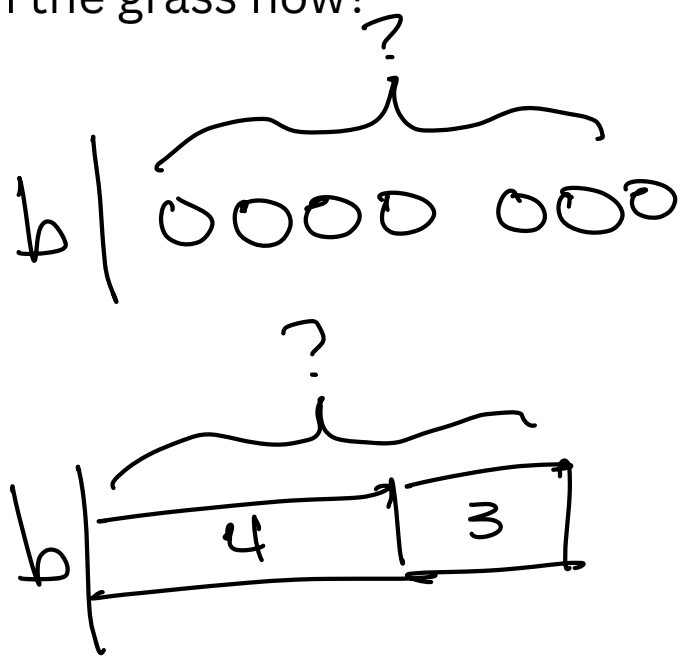
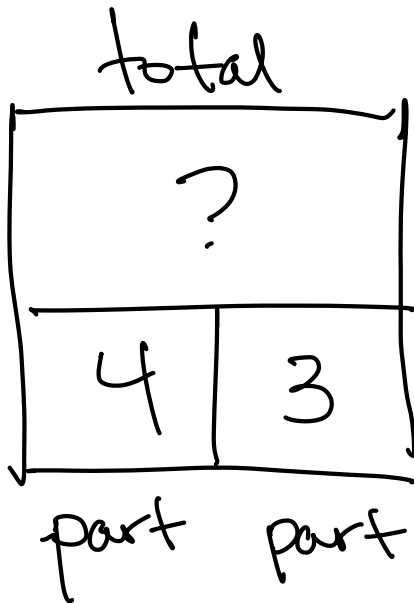
Strategy

- * Read the problem all the way through
- * Read the problem and build your model
- * Use the model to make your equation

Join (Add-To)	Result Unknown	Change Unknown	Start Unknown
Separate (Take-From)	Result Unknown	Change Unknown	Start Unknown
Part-Part- Whole	Whole Unknown	Part Unknown	Multiple Parts
Compare (More)	Difference Unknown	Bigger Unknown	Smaller Unknown
Compare (Fewer)	Difference Unknown	Smaller Unknown	Bigger Unknown

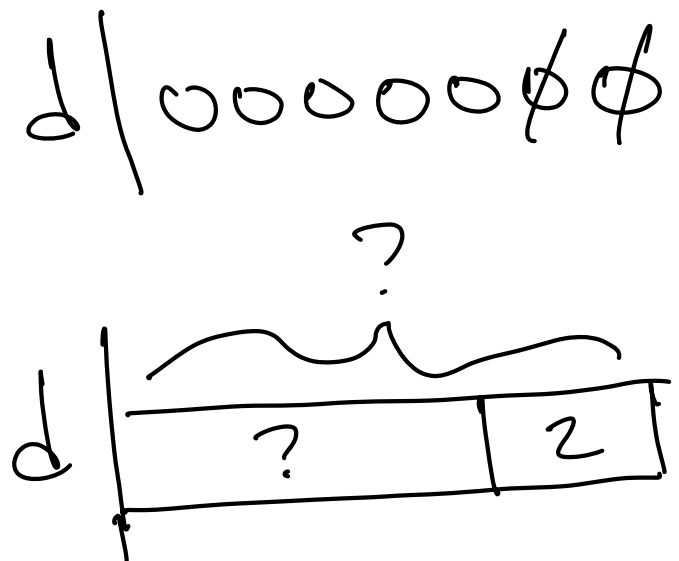
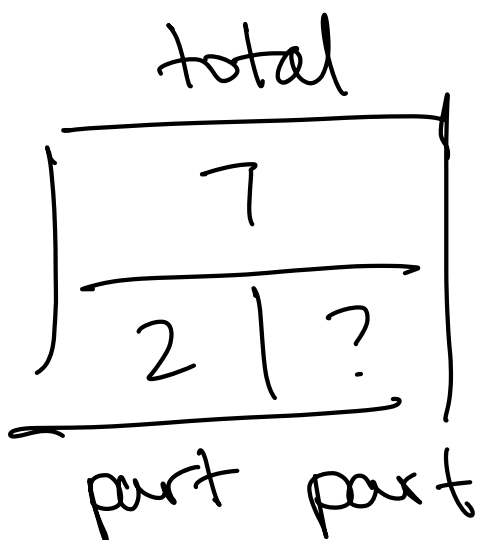
Grade K: Join

There are 4 bunnies on the grass. 3 more bunnies join them. How many bunnies are on the grass now?



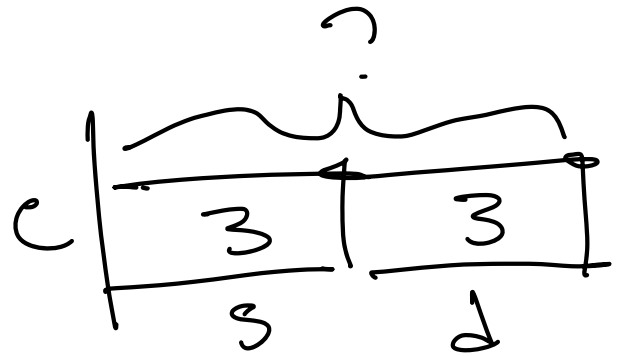
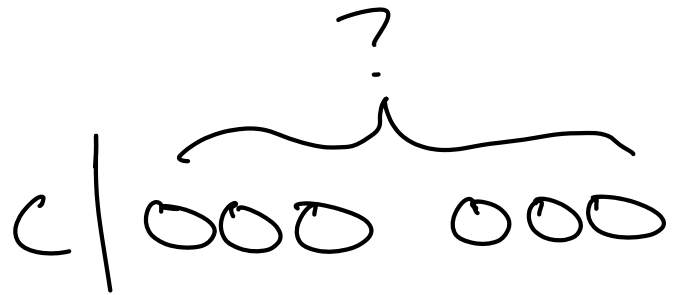
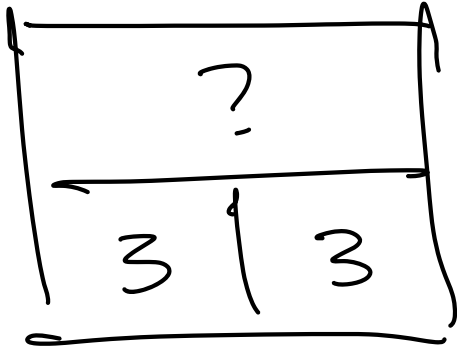
Grade K: Separate

There are 7 ducks on the pond. 2 of the ducks flew away. How many ducks are left on the pond?



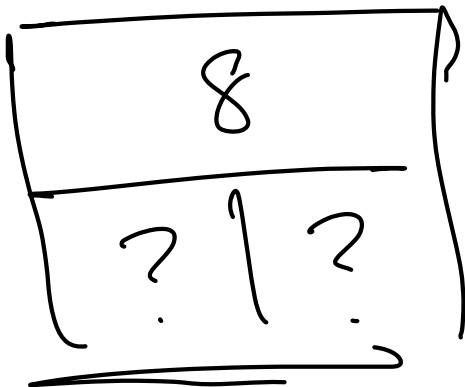
Grade K: Part-Whole

Brad and Angelina have 3 sons and 3 daughters. How many children do they have in all?



Grade K: Part-Whole

Emily has 8 crayons. How many could be red and how many could be green?



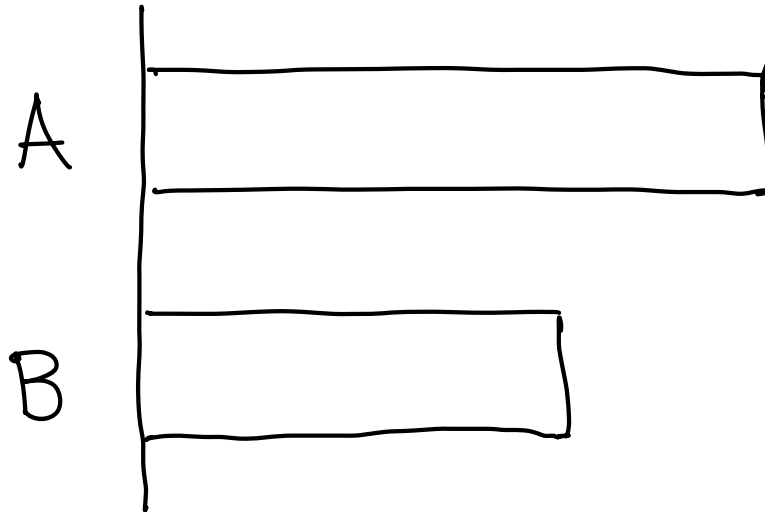
$$8 = 7 + 1$$

$$8 = 6 + 2$$

$$8 = 5 + 3$$

$$8 = 4 + 4$$

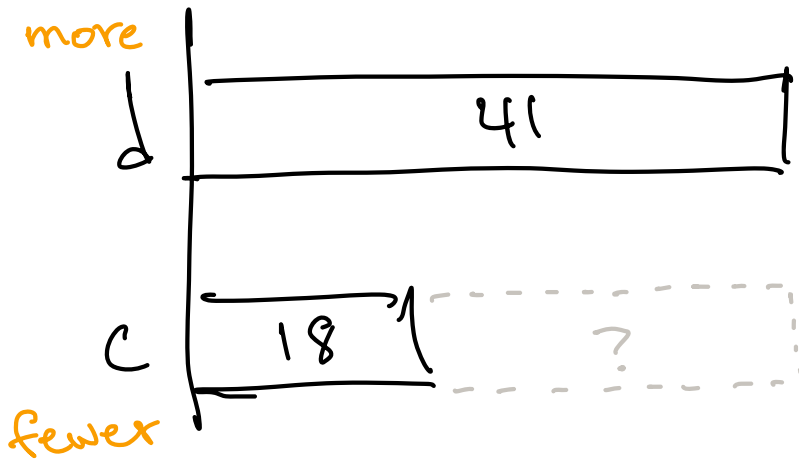
Compare



more? fewer? difference?

Grade 1: Compare

There are 41 ducks and 18 chickens on the farm. How many more ducks than chickens are there?

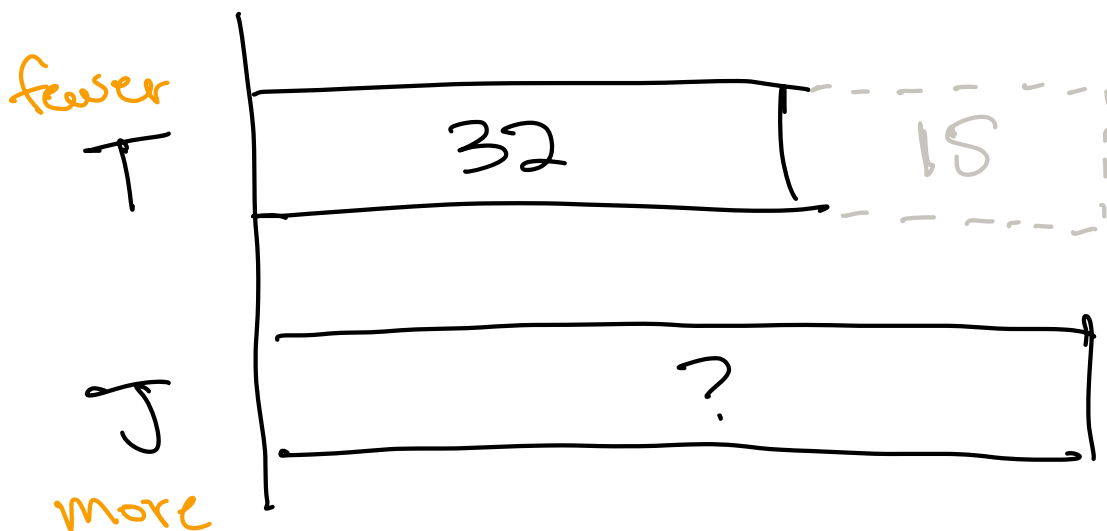


$$\begin{array}{r} 41 - 18 \\ \wedge \wedge \\ 40 10 8 \\ 30 11 \end{array}$$

$$\begin{array}{r} 30 - 10 = 20 \\ 11 - 8 = 3 \end{array}$$

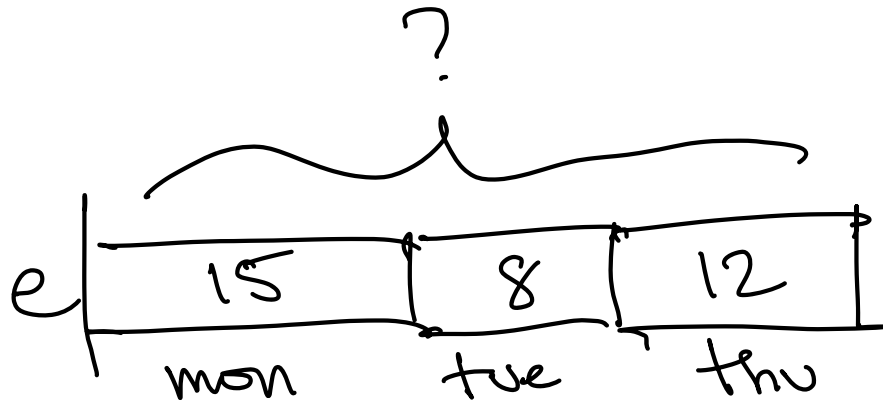
Grade 2: Compare

Tom had 32 marbles. He had 15 fewer marbles than Jerry. How many marbles did Jerry have?



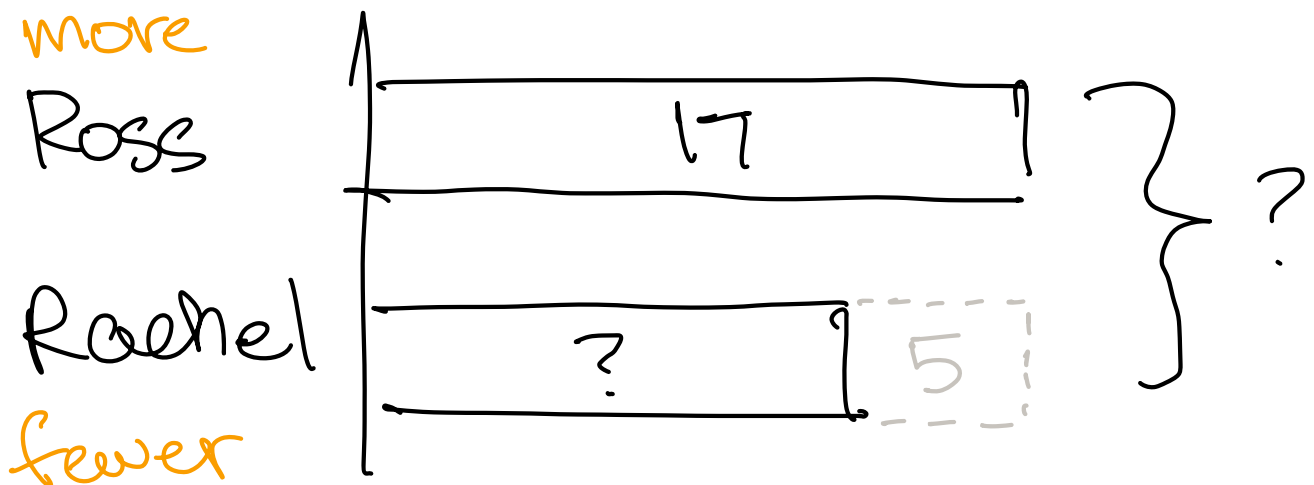
Grade 1: Join 2-Step

Hillary sent 15 emails on Monday and 8 more emails on Tuesday. On Thursday, she sent another 12 emails. How many emails did Hillary send in all?



Grade 2: Compare Multi-Step

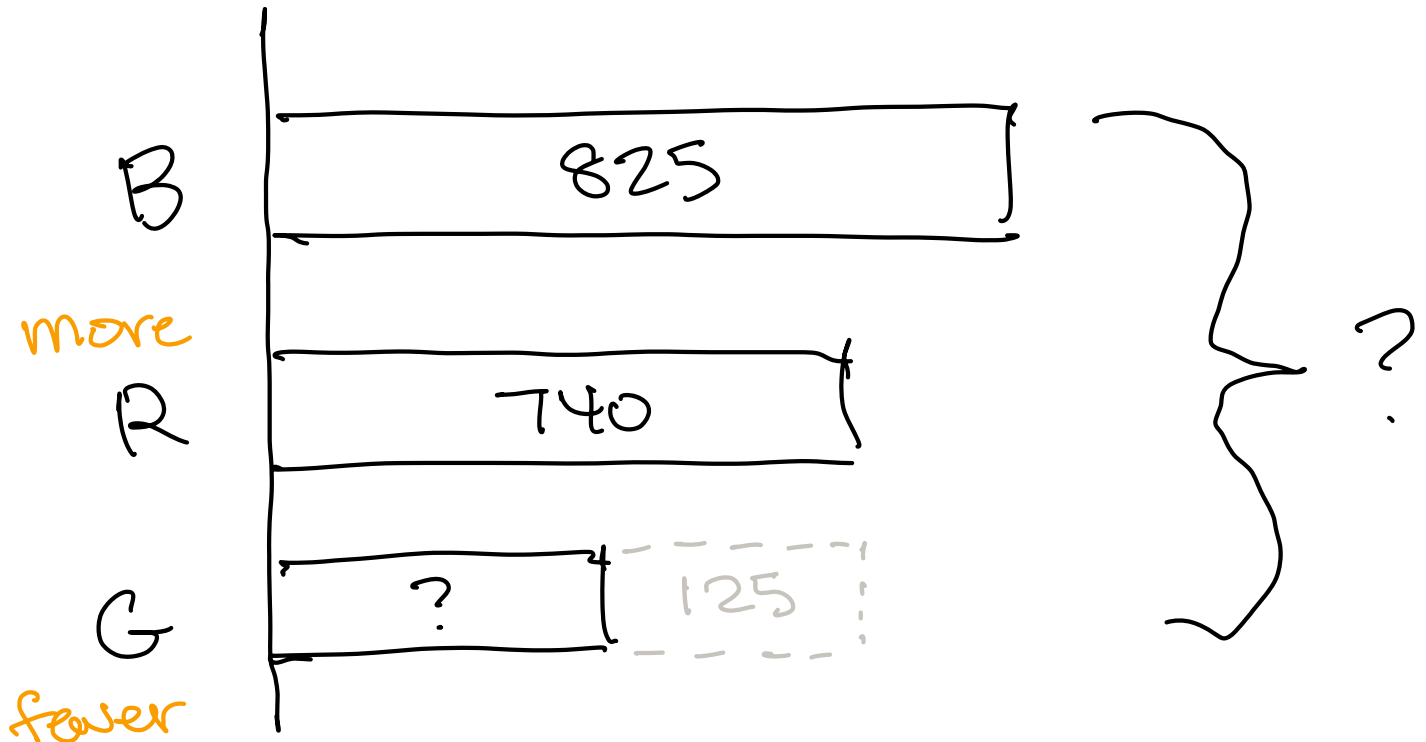
Ross read 17 books last month. He read 5 more books than Rachel. How many books did Ross and Rachel read in all?



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Grade 3: Compare 2-Step and Multi-Step

The stadium contains 825 blue seats and 740 red seats. There are 125 more red seats than green seats. How many seats are in the stadium?

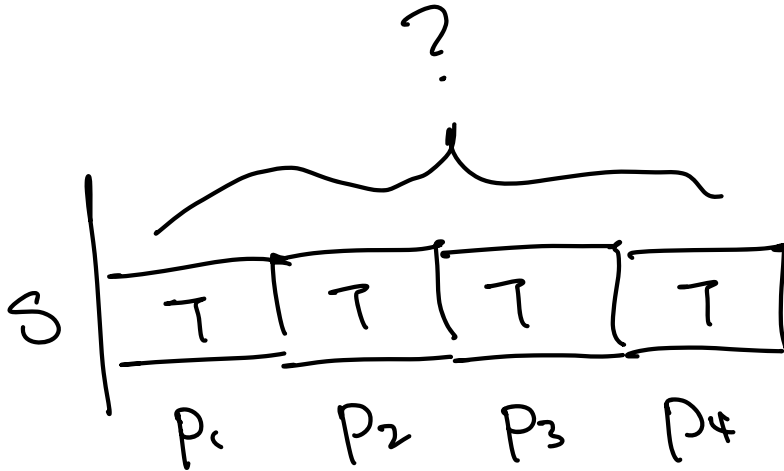


$$\begin{array}{r}
 740 - 125 \\
 \begin{array}{r}
 \uparrow \quad \uparrow \\
 \cancel{700} \quad \cancel{40} \quad \cancel{0} \quad \quad \quad 100 \quad 20 \quad 5 \\
 700 \quad 30 \quad 10
 \end{array}
 \end{array}$$

$$600 + 10 + 5 = 615$$

Grade 3: Equal Groups

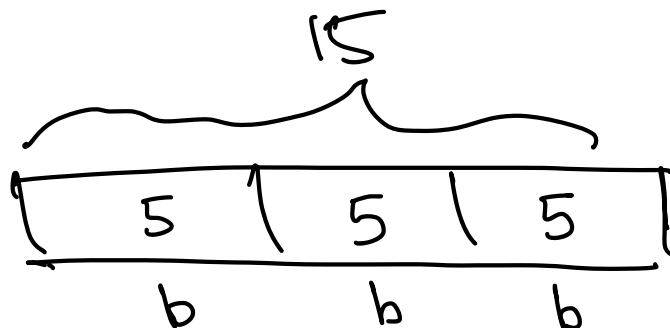
Sarah bought 4 packs of stickers. Each pack contains 7 stickers. How many stickers did Sarah buy in total?



Grade 3: Equal Groups

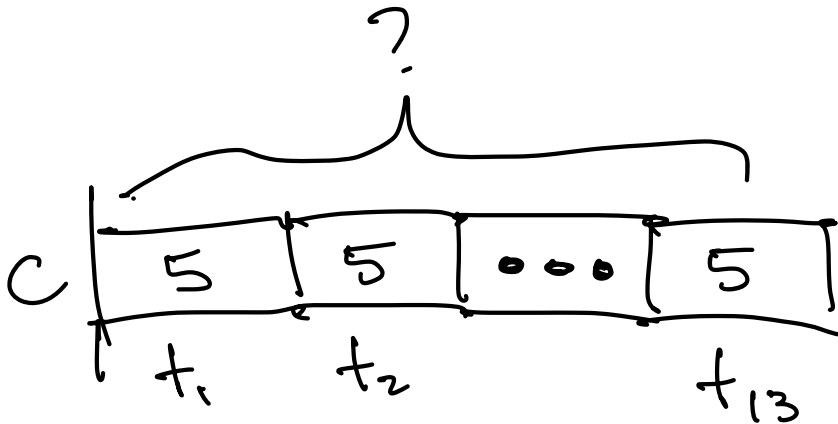
Willy has 15 chocolates. Using all of the chocolates, Willy fills 3 bags with an equal number of chocolates in each. Which of the following statements is true?

- a) There are 18 chocolates in all
- b) There are 5 bags filled with chocolates
- c) There are 45 chocolates in all
- ☒ d) There are 5 chocolates in each bag



Grade 3: Equal Groups

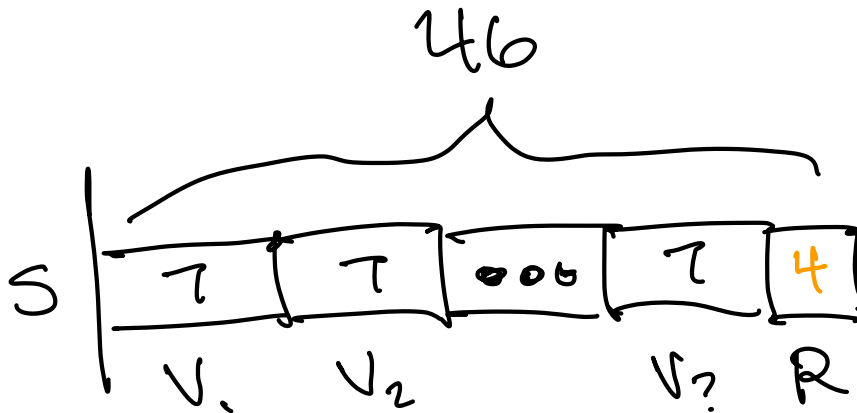
A bakery made 13 trays of cookies. Each tray has 5 cookies. How many cookies did the bakery make in total?



$$13 \times 5 = ?$$

Grade 4: Remainders

There are 46 students going on a field trip. Each van can hold 7 students. How many vans are needed?



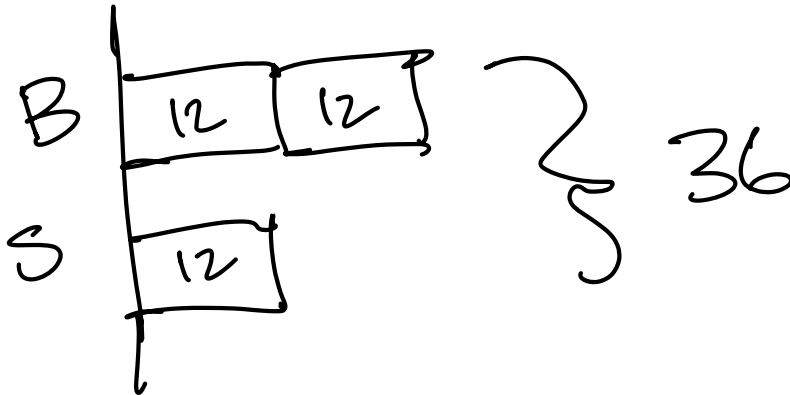
$$46 \div 7$$

42 4

$$6 \text{ vans} + 1 \text{ van} = 7 \text{ vans}$$

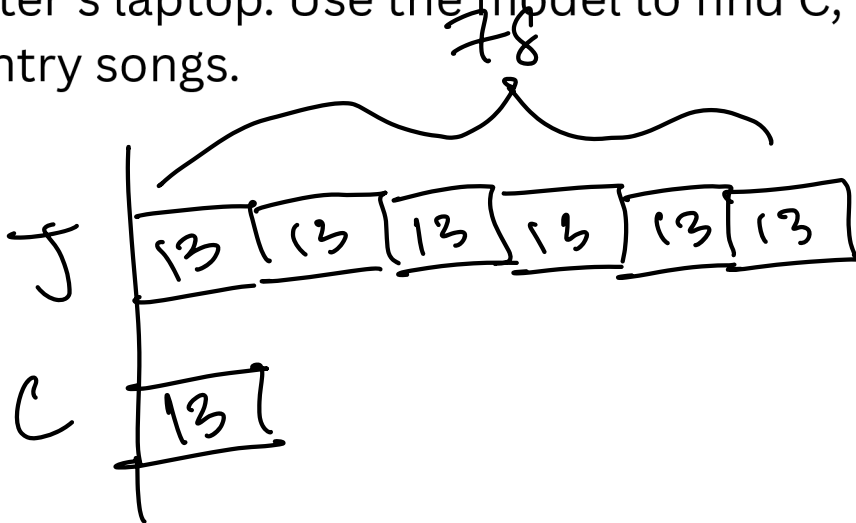
Grade 4: Multiplicative Comparison

A bigger number is twice the size of a smaller number.
The sum of two numbers is 36. What is the bigger number?



Grade 4: Multiplicative Comparison

Hunter has 78 jazz songs on his laptop. The number of jazz songs he has is 6 times the number of country songs. Draw a visual model that shows the relationship between the number of jazz songs and country songs on Hunter's laptop. Use the model to find C, the number of country songs.

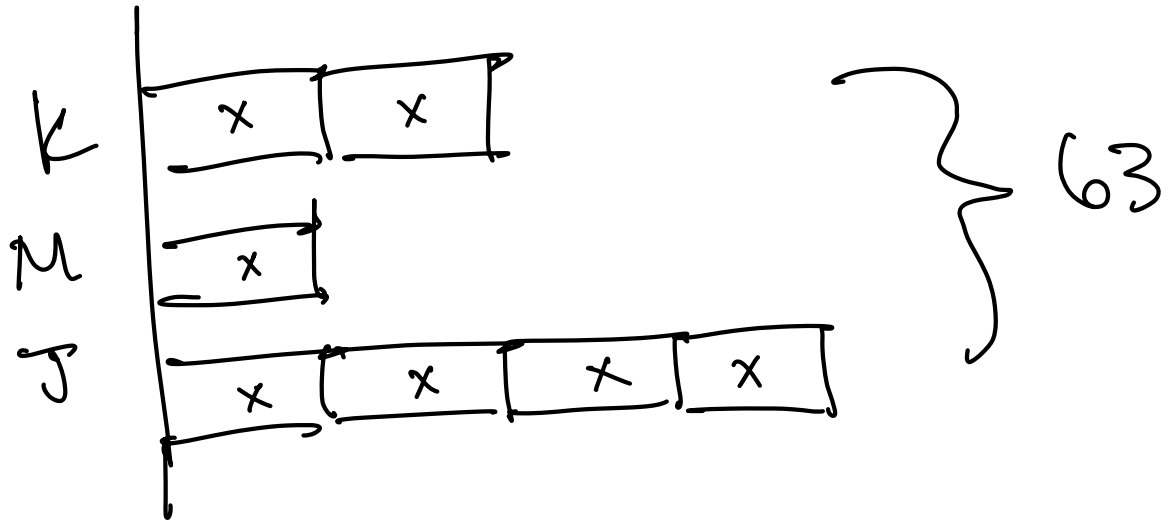


$$78 \div 6$$
$$\begin{array}{r} 60 \quad 18 \end{array}$$

$$60 \div 6 = 10$$
$$18 \div 6 = 3$$

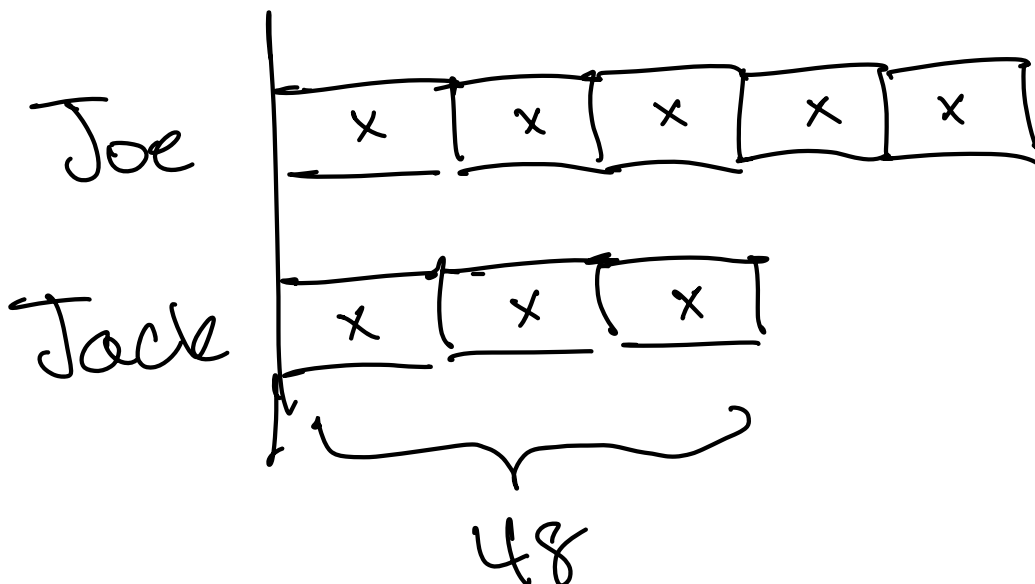
Grade 5: Multiplicative Comparison

Karl scored twice as many points as Mikal. Jalen scored twice as many points as Karl. The 3 of them scored a total of 63 points. How many points did Jalen score?



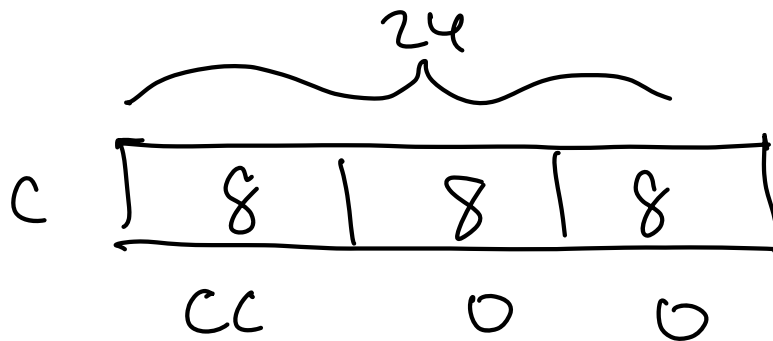
Grade 6: Ratio

Joe and Jack have weekly allowances in the ratio of 5:3. If Jack has a weekly allowance of \$48, what is Joe's?



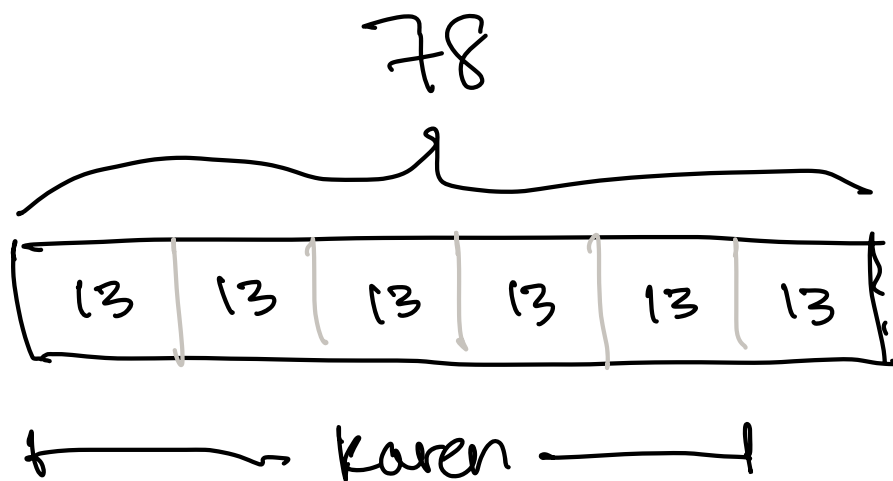
Grade 3: Fractions

There are 24 cookies in a jar. $\frac{1}{3}$ of the cookies are chocolate chip and the rest are oatmeal. How many oatmeal cookies are in the jar?



Grade 4: Fractions

Zoran sets his thermostat to 78 degrees. Karen sets her thermostat to $\frac{5}{6}$ of that. What temperature is Karen's thermostat set to?



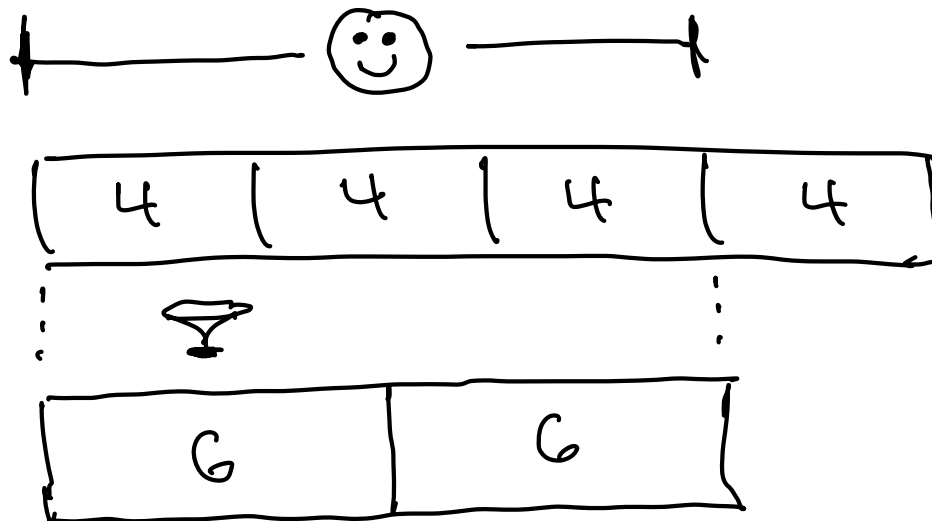
$$\begin{array}{r} 78 \div 6 \\ \wedge \\ 60 \quad 18 \\ 60 \div 6 = 10 \\ 18 \div 6 = 3 \end{array}$$

Grade 5: Fractions

A bakery made 48 muffins. $\frac{3}{4}$ of them were blueberry. $\frac{1}{6}$ of the blueberry muffins had extra sugar on top. How many blueberry muffins had extra sugar on top?

Grade 6: Fractions

A survey was given to a group of married people. $\frac{3}{4}$ of them said they were happy. Of this group, $\frac{1}{2}$ of them said they have at least one drink per day. If 6 people in the survey are both happy and also have at least one drink per day, how many people took the survey?



Grade 5: Perimeter/Area

Donald is building a rectangular reflecting pool in his front yard. The length is 3 times the width, and the perimeter is 96 ft. What is the area of the pool, in ft^2 ?

Middle School

There are 420 students in a school. $\frac{1}{2}$ of the boys and $\frac{1}{3}$ of the girls take the bus to school. The number of boys who take the bus is twice the number of girls who take the bus. How many girls take the bus to school?