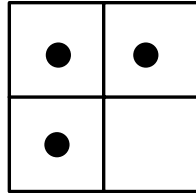


Name \_\_\_\_\_

Set  
of  
Problems #1

Clue 1

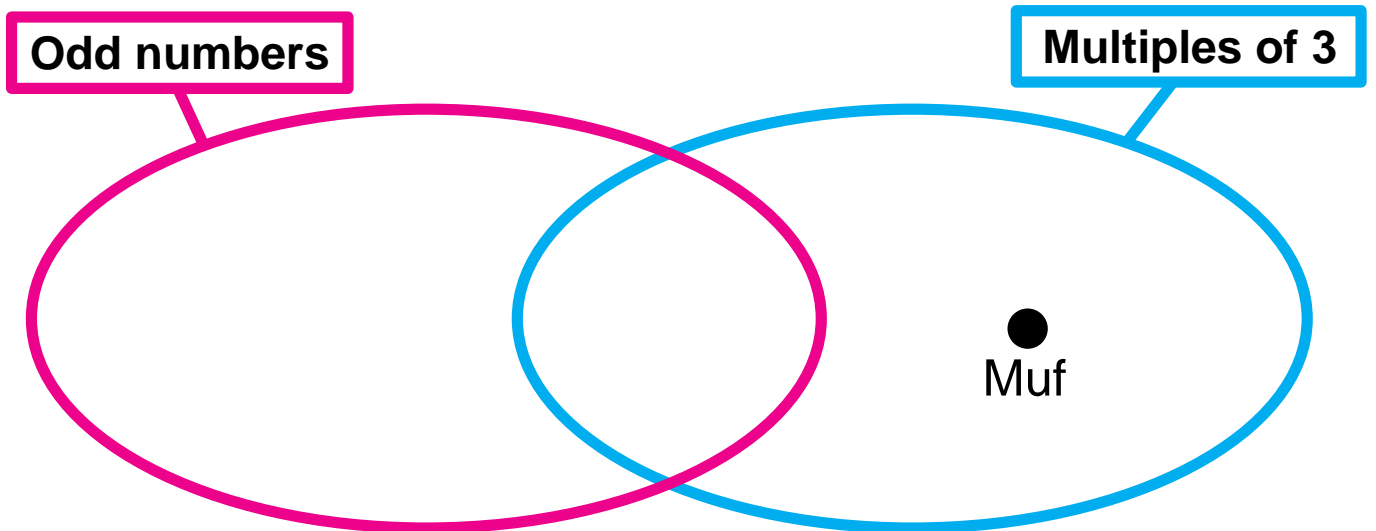
Muf can be shown on this Minicomputer by adding exactly one regular checker.



Muf could be \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_.

Clue 2

Muf is in this string picture.



Who is Muf? \_\_\_\_\_

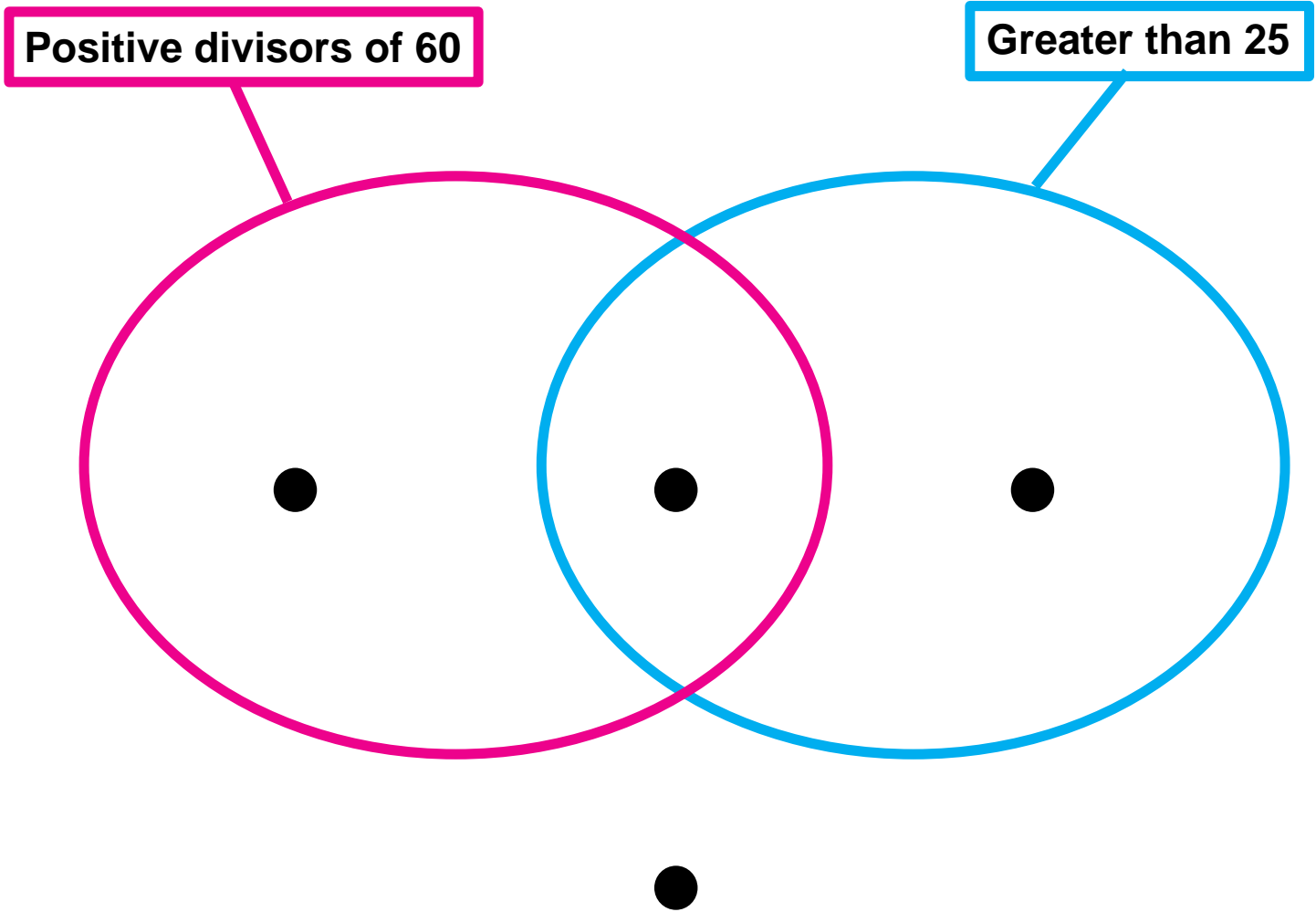
5 is in each of these pictures.

In each picture, label all of the dots and circle the dot for 5.

<p>13</p> <p>+4</p>	<p>13</p> <p>-2</p>
<p>20</p> <p>x2</p>	<p>16</p> <p>x3</p> <p>+1</p>

Put these numbers in their correct places in the string picture.

10      30      25      90

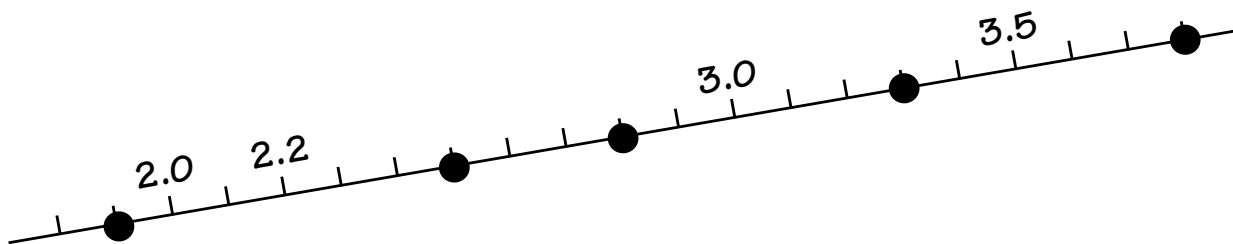


Put two more numbers of your choice in the picture.

Zan is a secret number.

Clue 1

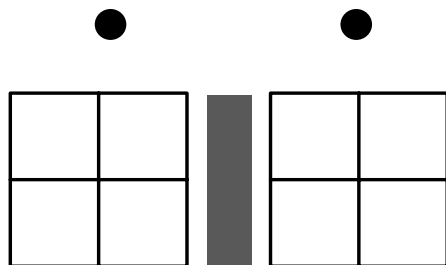
One of these five dots is for Zan. Label each dot.



Zan could be \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_.

Clue 2

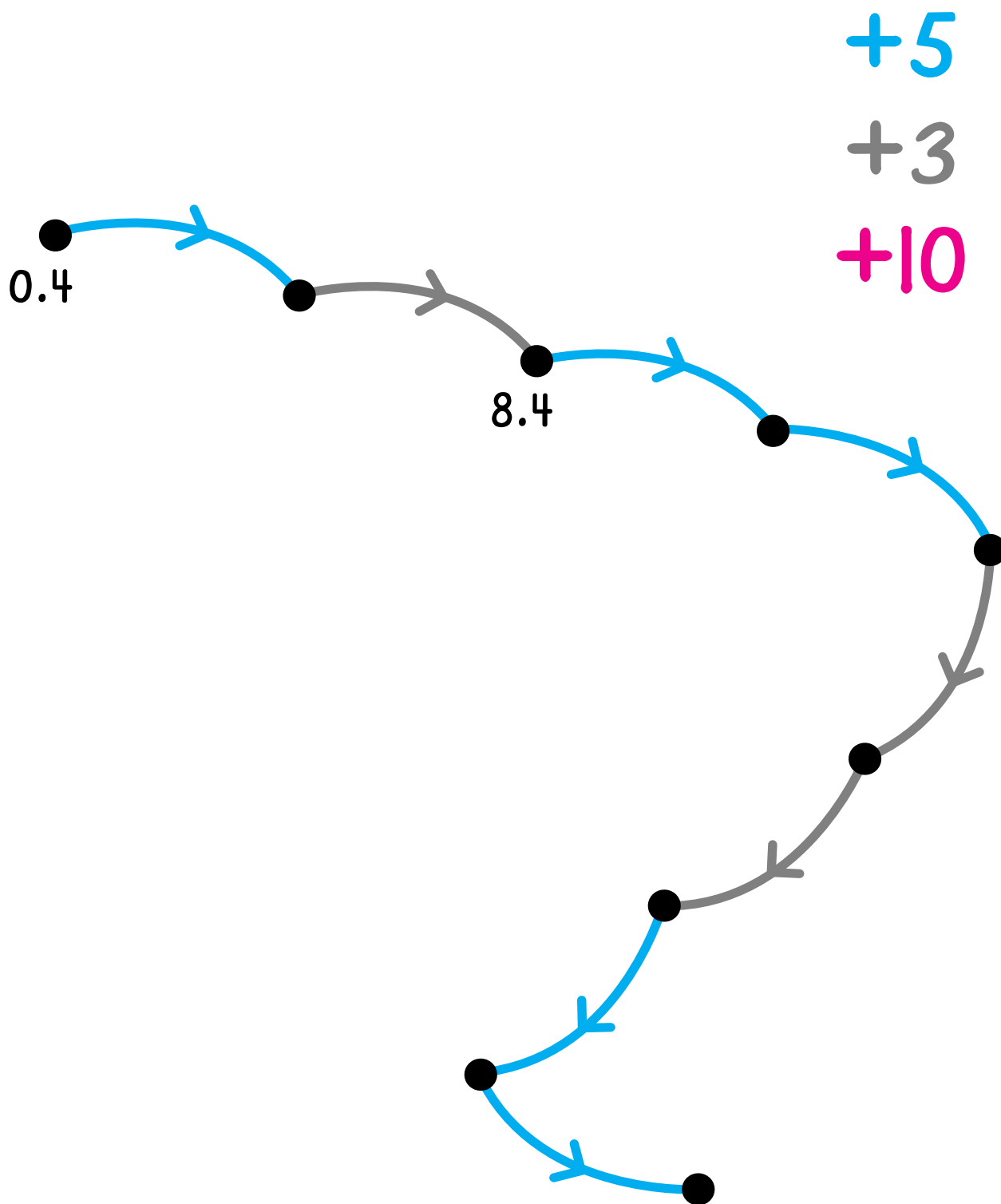
Zan can be put on the Minicomputer with exactly one regular checker on each board.



Who is Zan? \_\_\_\_\_

Label the dots.

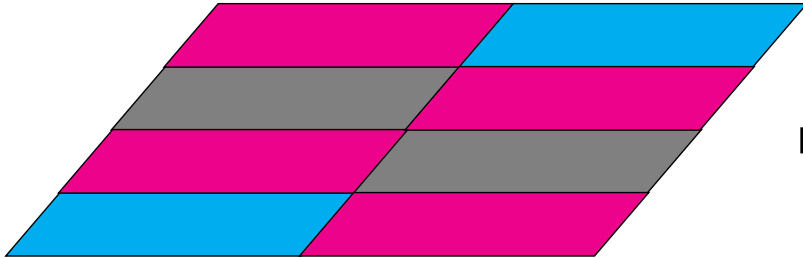
Draw as many +10 arrows as possible.



Fill in the boxes.

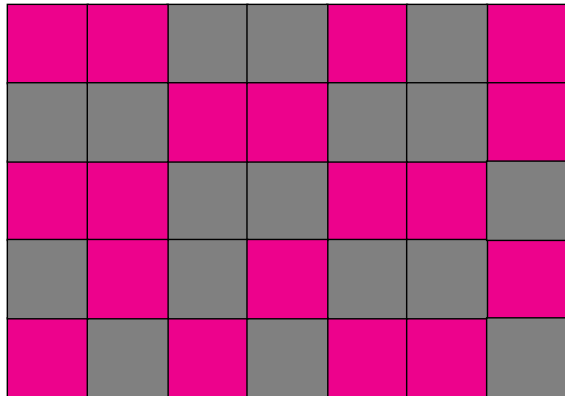
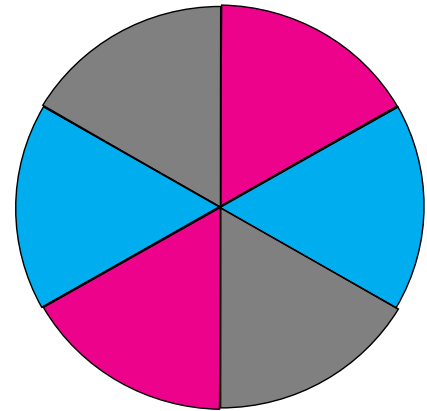
$\hat{9}$	$\hat{8}$	$\hat{7}$	$\hat{6}$	$\hat{5}$	$\hat{4}$	$\hat{3}$	$\hat{2}$	$\hat{1}$	0	1	2	3	4	5	6	7	8	$\hat{9}$	
$\hat{10}$																			10
$\hat{11}$																			11
$\hat{12}$																			12
$\hat{13}$																			13
$\hat{14}$																			14
$\hat{15}$																			15
$\hat{16}$																			16
$\hat{17}$																			17
$\hat{18}$																			18
$\hat{19}$																			19
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$\hat{23}$																			23
$\hat{24}$																			24
$\hat{25}$																			25
$\hat{26}$																			26
$\hat{27}$																			27
$\hat{28}$																			28
$\hat{29}$																			29
$\hat{30}$																			30
$\hat{31}$																			31
$\hat{32}$																			32

Which of these shapes are colored exactly one-half red?  
 Which are colored less than one-half red? Which are  
 colored more than one-half red? Circle your answers.



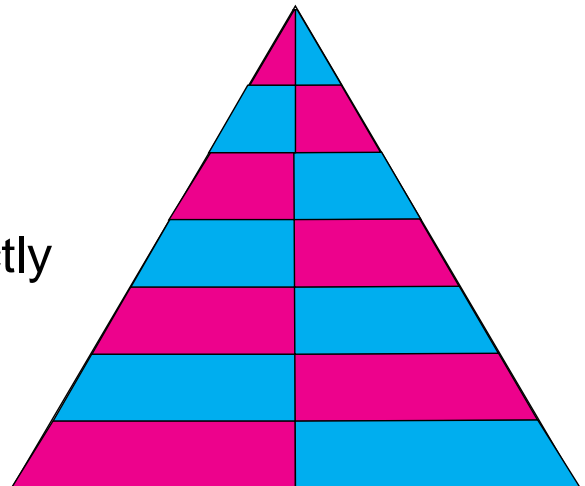
more    less    exactly

more    less    exactly



more    less    exactly

more    less    exactly





Nabu puts tennis balls in boxes. Each box holds 9 tennis balls.

How many boxes does he need ...

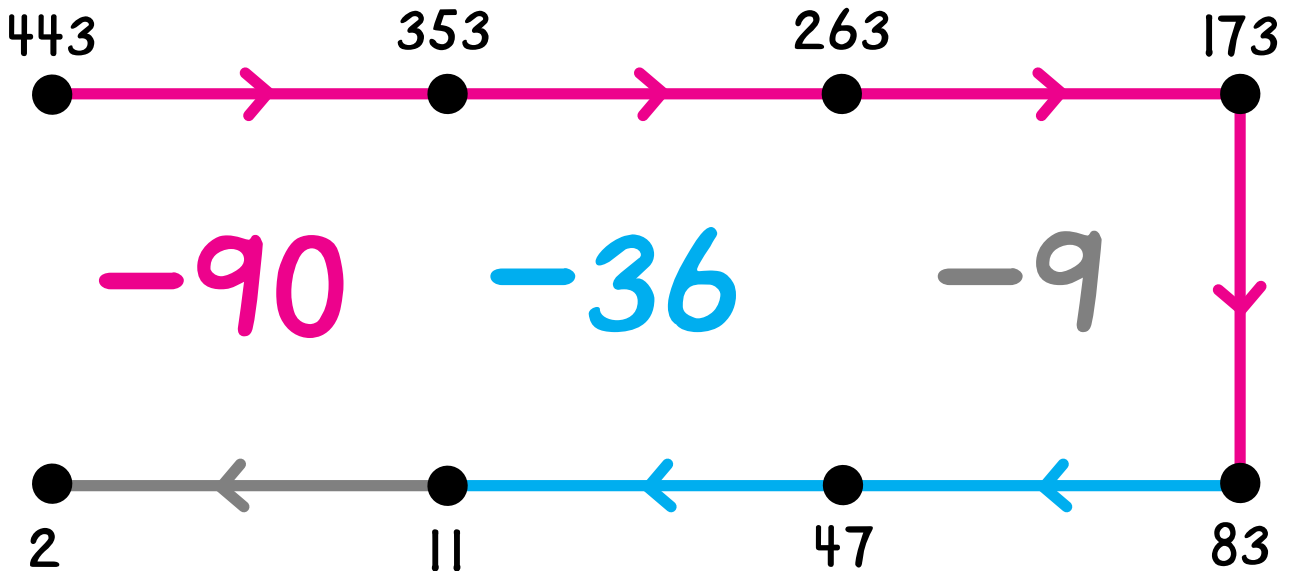
for 18 balls? \_\_\_\_\_

for 27 balls? \_\_\_\_\_

for 36 balls? \_\_\_\_\_

for 72 balls? \_\_\_\_\_

One day Nabu must place 443 tennis balls in boxes. Each box holds 9 tennis balls. Nabu draws this arrow picture to help him calculate the number of boxes he will fill.



How many boxes will Nabu fill? \_\_\_\_\_

How many tennis balls will be left over? \_\_\_\_\_

Do these calculations.

$$\begin{array}{r} 158 \\ 49 \\ +2036 \\ \hline \end{array}$$

$$\begin{array}{r} 385 \\ 439 \\ +127 \\ \hline \end{array}$$

$$\begin{array}{r} 431 \\ -280 \\ \hline \end{array}$$

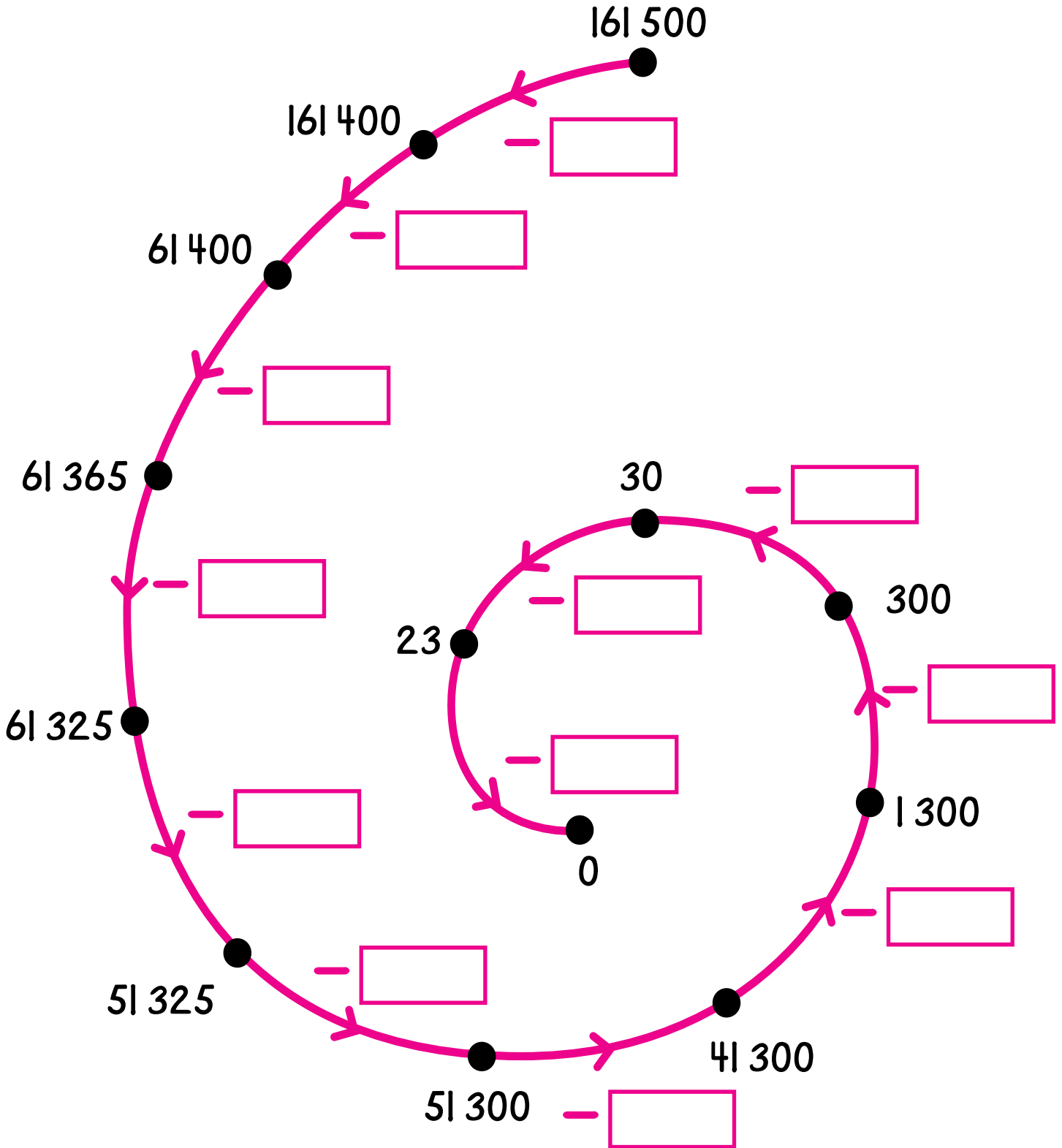
$$\begin{array}{r} 560 \\ -352 \\ \hline \end{array}$$

$$\begin{array}{r} 26 \\ \times 4 \\ \hline \end{array}$$

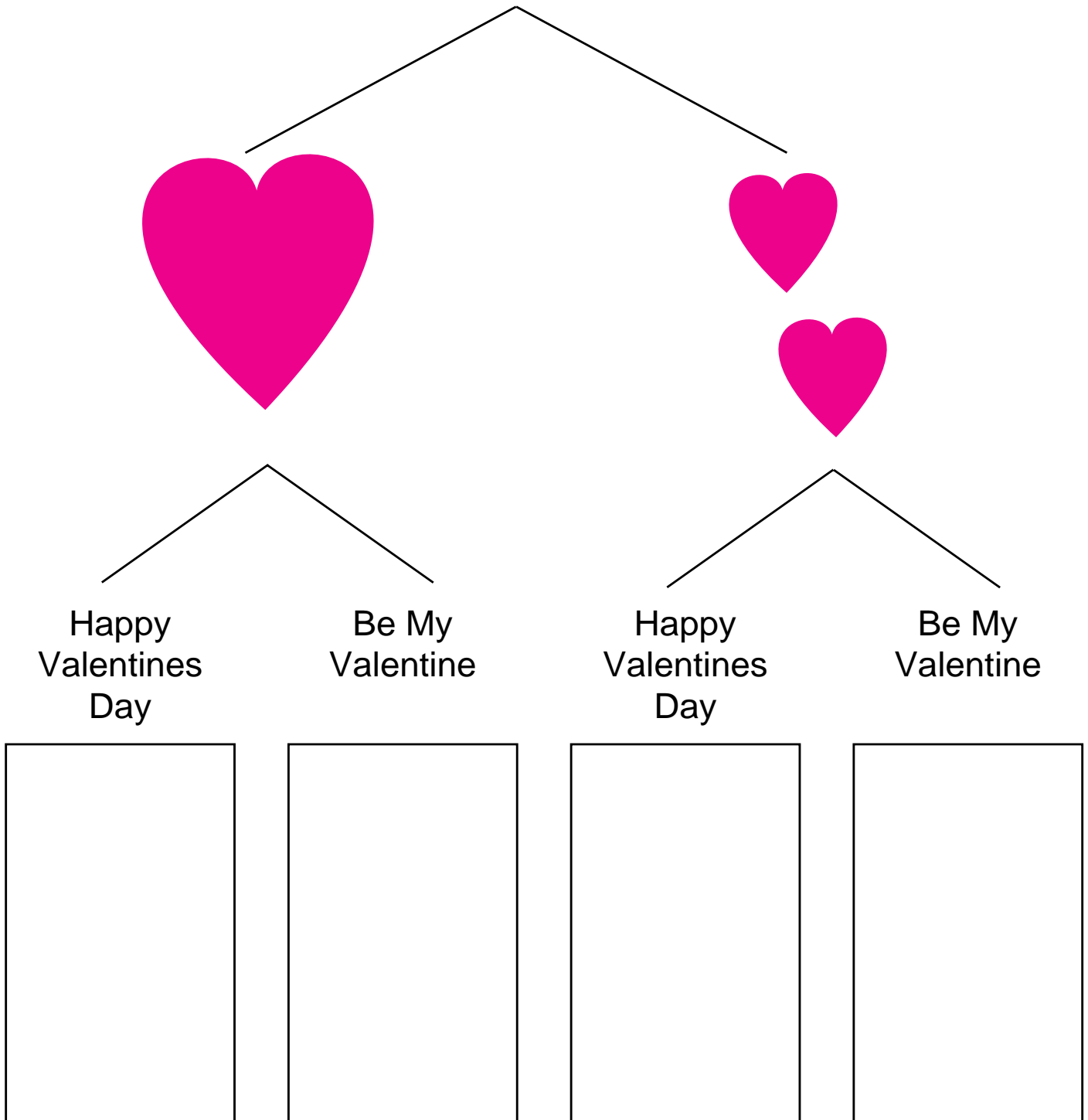
$$\begin{array}{r} 193 \\ \times 8 \\ \hline \end{array}$$

# Wipe-Out

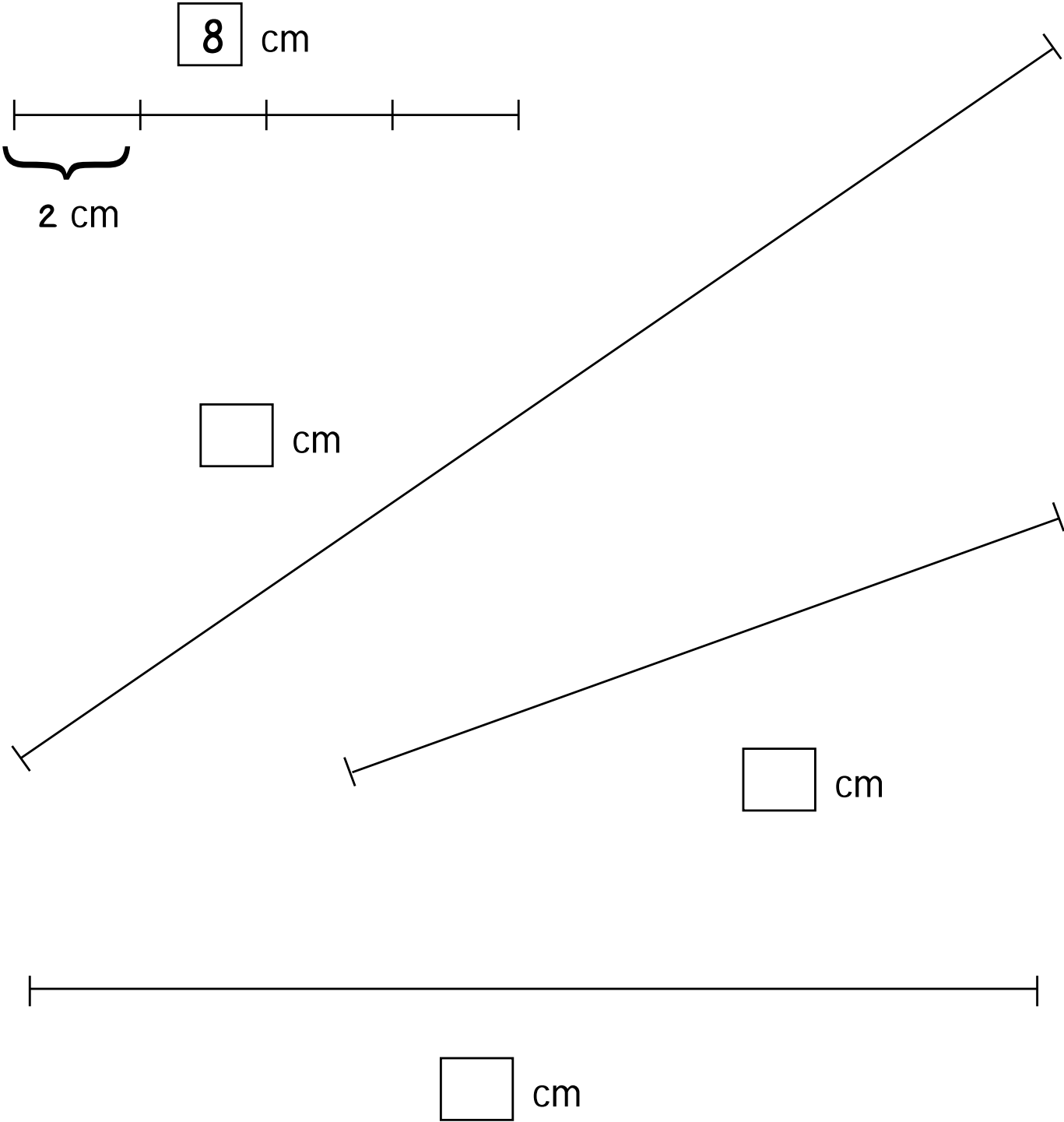
Label the arrows.



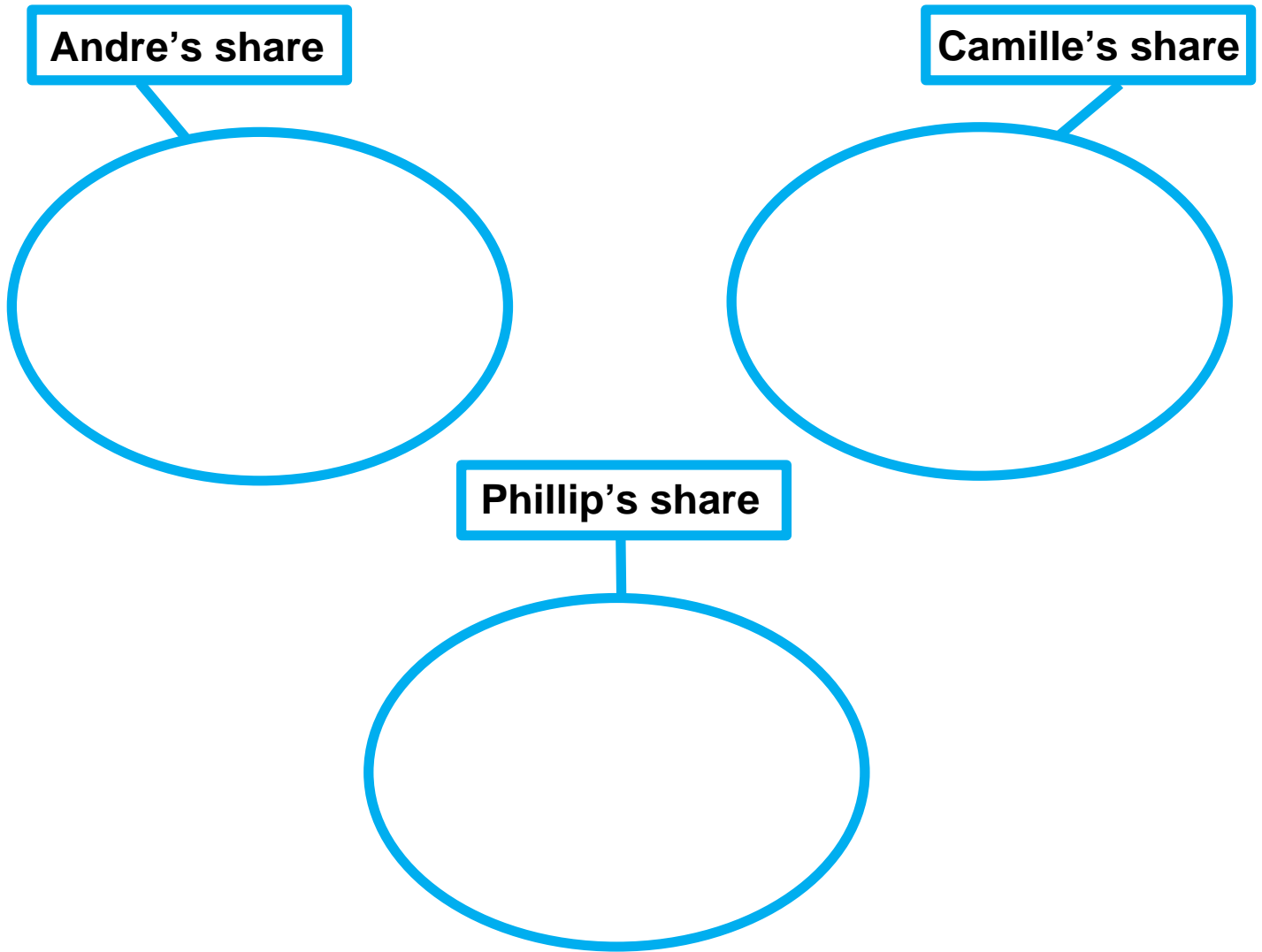
Lori designs her own valentines on pieces of white paper. On each, she draws either one big red heart or two small red hearts and writes either "Be My Valentine" or "Happy Valentines Day." Following this tree, show the different kinds of valentines she makes.



Measure each segment to the nearest centimeter and record its length. Then divide each segment into four pieces of the same length. One is done for you.



Andre, Phillip, and Camille share 138 sheets of colored paper evenly. How many sheets does each person get? \_\_\_\_\_



What fraction of the total number of sheets does each person get? \_\_\_\_\_

Andre gives his share to Camille. What fraction of the colored paper does Camille have now? \_\_\_\_\_

How many sheets of paper does Camille have now? \_\_\_\_\_

Do these calculations.

$6 \times 8 = \square$

$7 \times 9 = \square$

$48 \div 6 = \square$

$63 \div 7 = \square$

$48 \div 8 = \square$

$63 \div 9 = \square$

$8 \overline{) 24}$

$8 \overline{) 25}$

$8 \overline{) 26}$

$8 \overline{) 27}$

$8 \overline{) 28}$

$8 \overline{) 29}$

$8 \overline{) 30}$

$8 \overline{) 31}$

$8 \overline{) 32}$

$3 \times 12 = \square$

$4 \times 25 = \square$

$36 \div 3 = \square$

$100 \div 4 = \square$

$36 \div 12 = \square$

$100 \div 25 = \square$

Ling is a secret number.

Clue 1

Ling is one of these numbers.

●	
	⊖

 = \_\_\_\_\_

	⊖

●	

 = \_\_\_\_\_

	⊕
⊖	

 = \_\_\_\_\_

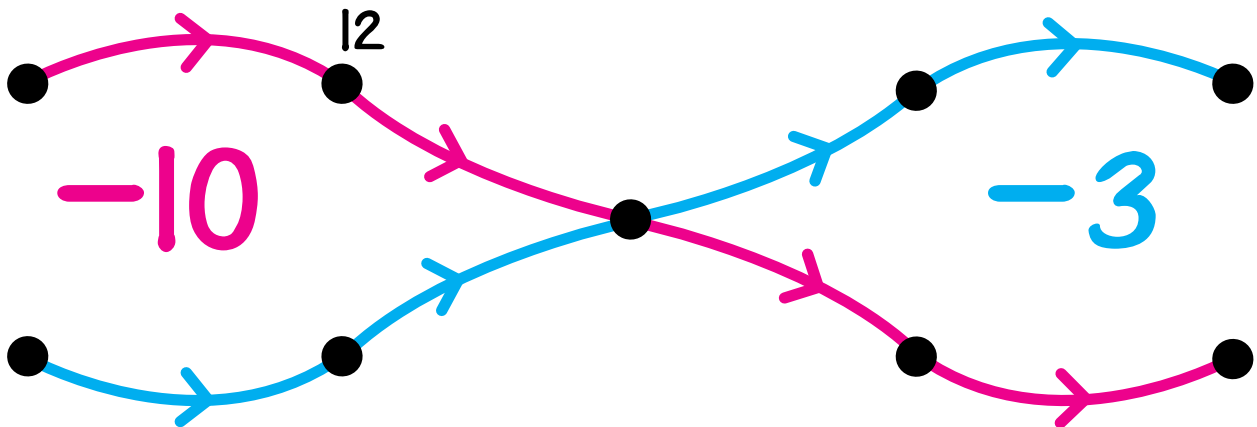
	⊖

⊕	

 = \_\_\_\_\_

Clue 2

Ling is in this arrow picture.



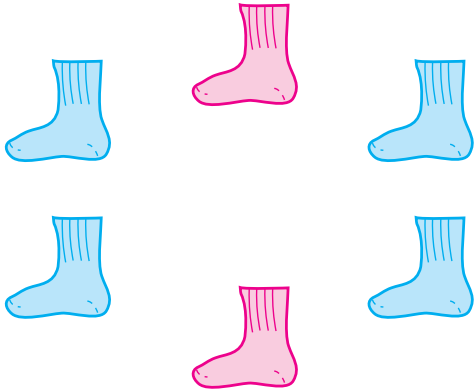
Who is Ling? \_\_\_\_\_



One morning, Olga has four blue socks and two red socks in her sock drawer. In the dark, Olga selects two socks and puts them on. Find the probability that she is wearing two socks of the same color.

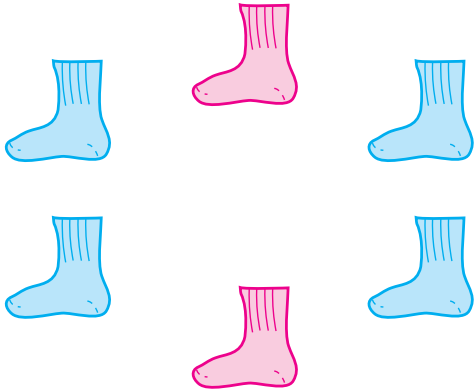
**Same**

Show all of the possible ways Olga could select two socks of the same color.



**Different**

Show all of the possible ways Olga could select two socks of different colors.

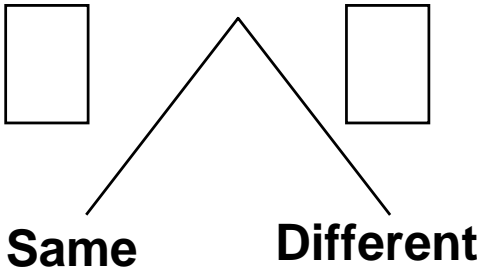


How many ways can Olga select two socks of the same color? \_\_\_\_\_

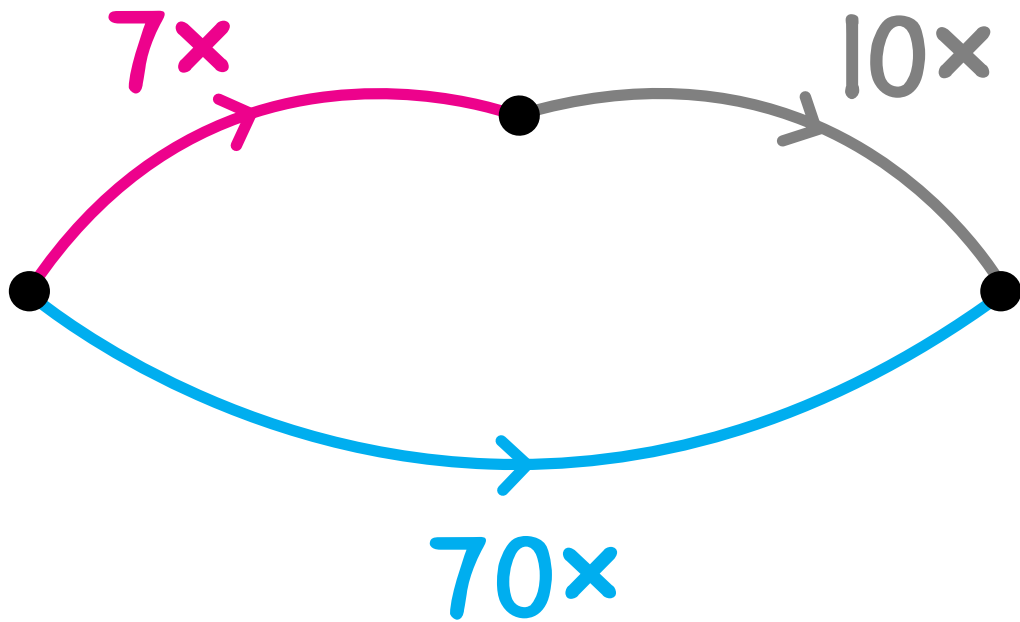
How many ways can Olga select two socks of different colors? \_\_\_\_\_

Altogether, how many ways can Olga select two socks? \_\_\_\_\_

Write the probabilities in the boxes.



Is Olga more likely to select socks of the same or of different colors? \_\_\_\_\_



Do these calculations. This arrow picture can help you.

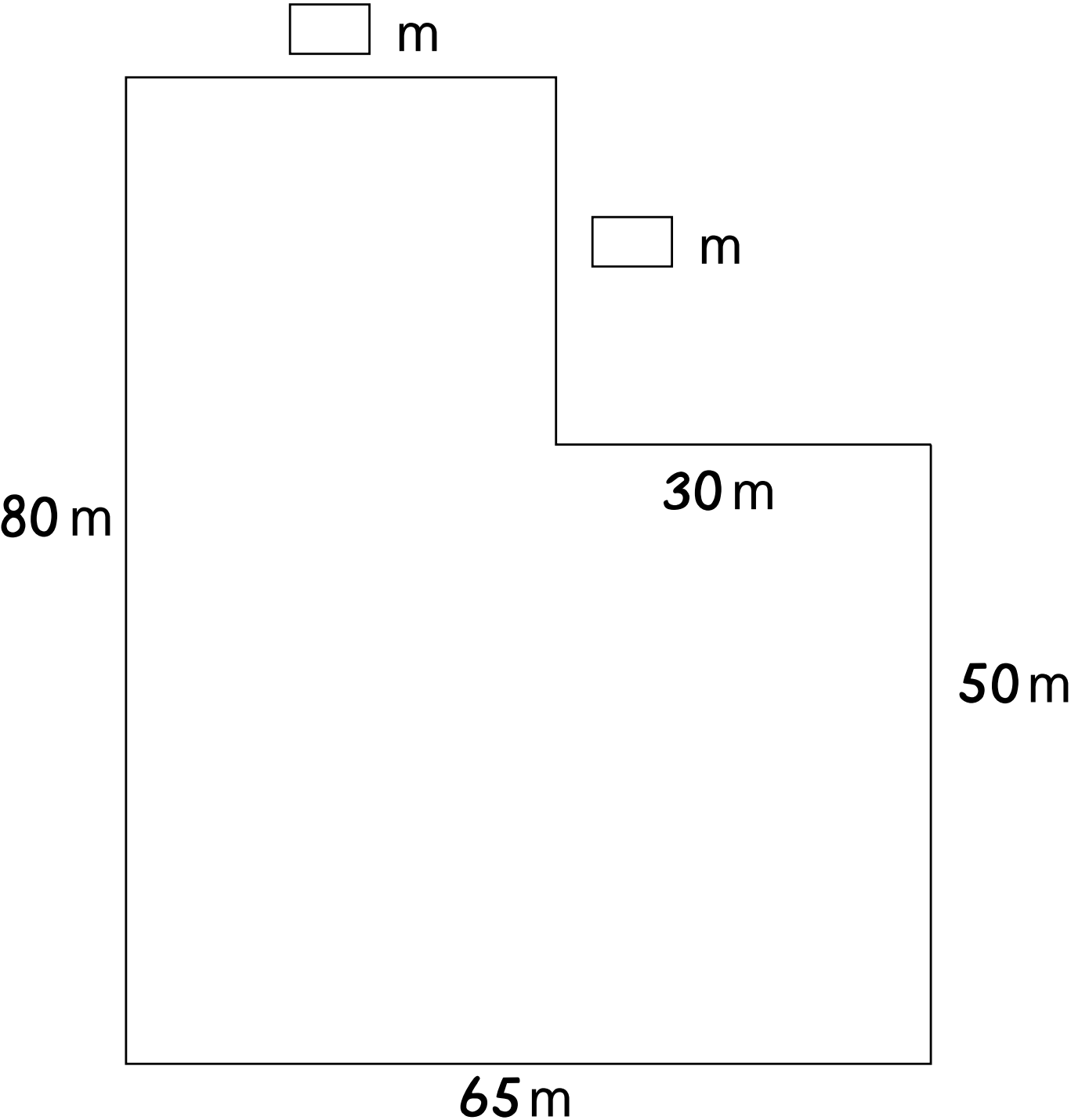
$$70 \times 13 = \underline{\hspace{2cm}}$$

$$70 \times 24 = \underline{\hspace{2cm}}$$

$$70 \times 50 = \underline{\hspace{2cm}}$$

$$70 \times 100 = \underline{\hspace{2cm}}$$

This is a map of a playground. Find the length of the two sides whose lengths are not given. The shape has only square corners. Do not use a ruler.



Fill in the boxes. One is done for you. Hint: You do not need to add these long columns of numbers.

239

239

239

239

239

239

239

239

239

239

239

239

+ 239

$13 \times 239 =$

239

239

239

239

239

239

239

239

239

239

239

239

239

+ 239

$14 \times 239 =$

239

239

239

239

239

239

239

239

239

239

239

239

239

239

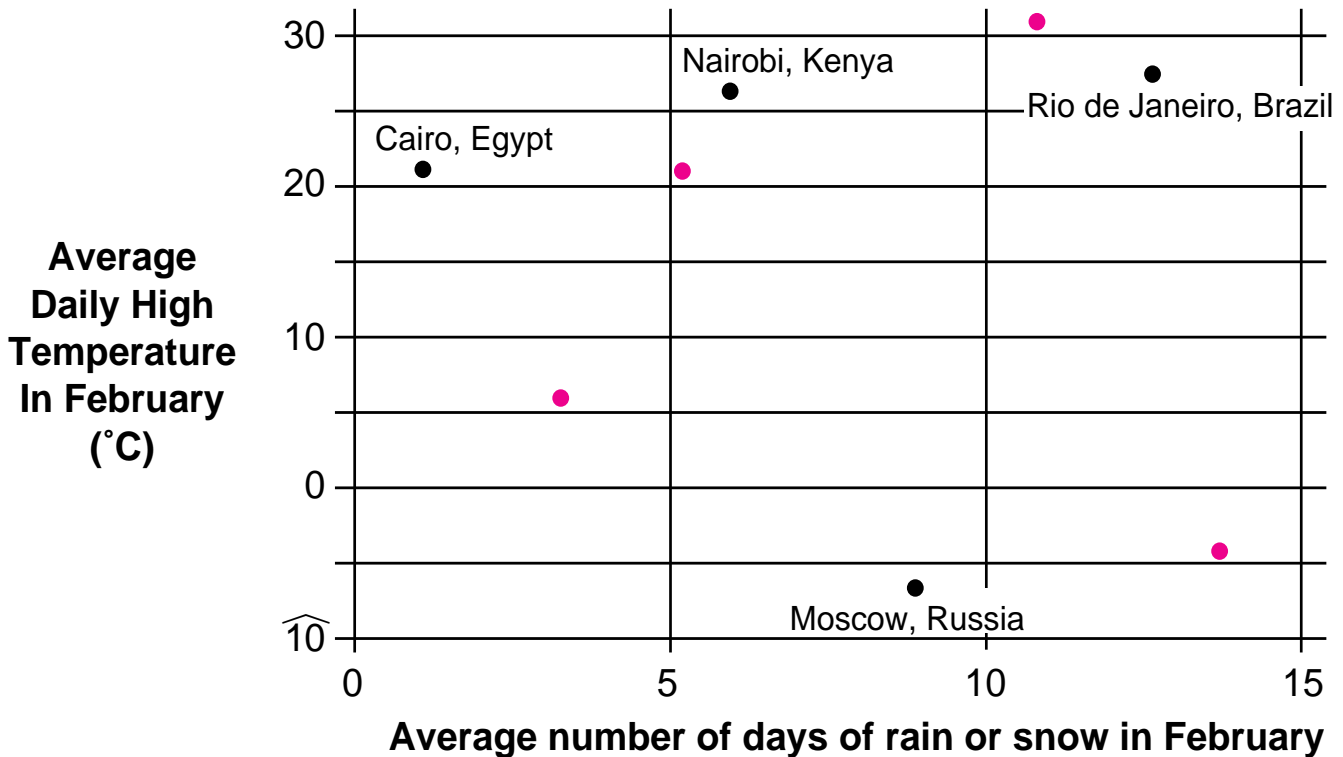
+ 239

$15 \times 239 =$

$26 \times 239 = 6\,214$

$27 \times 239 =$

## February Precipitation and Temperature



How many days of snow does Moscow average in February? \_\_\_\_\_

What is Moscow's average high temperature in February? \_\_\_\_\_

Which city is driest in February? \_\_\_\_\_

How many more days of rain does Rio de Janeiro have than Nairobi? \_\_\_\_\_

How much hotter is Nairobi than Moscow in February? \_\_\_\_\_

In February, London's temperature is 7°C and they receive 13 days of rain. Draw a dot for London.

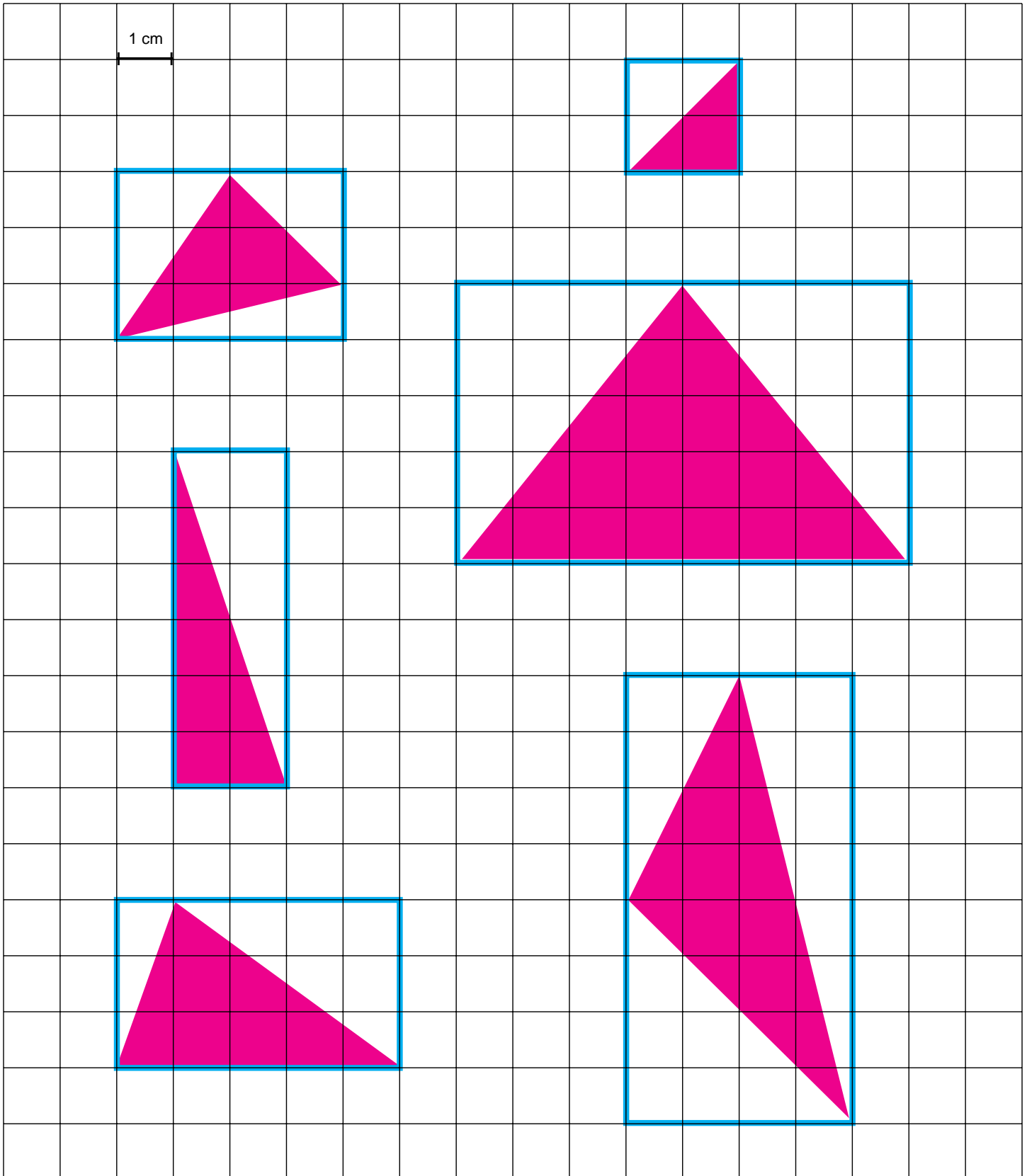
The red dots are for these cities. Label the red dots.

Montreal, Canada is cold and receives much snow in February.

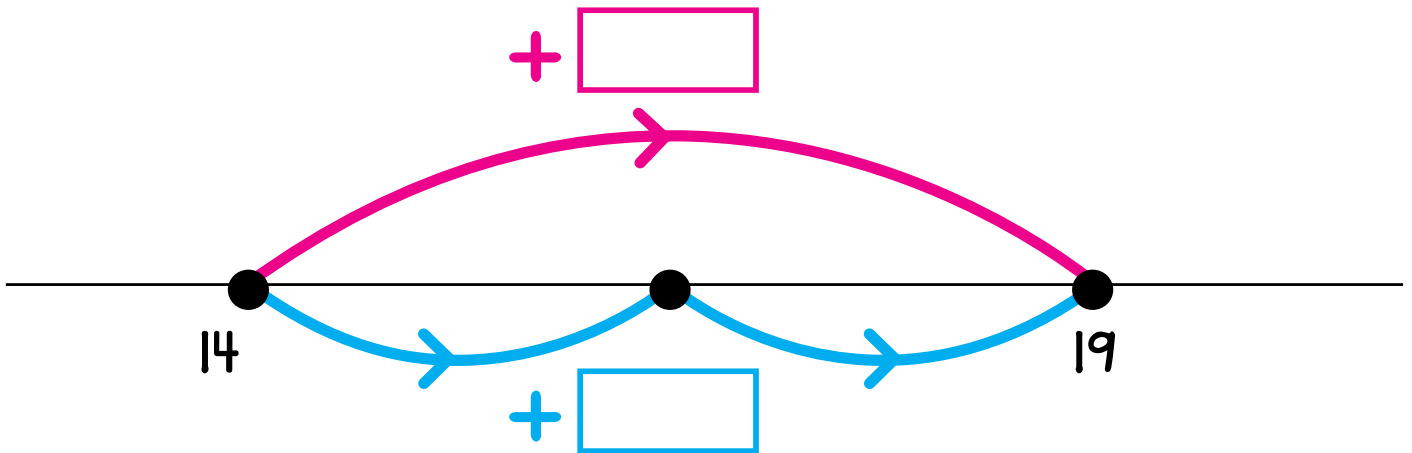
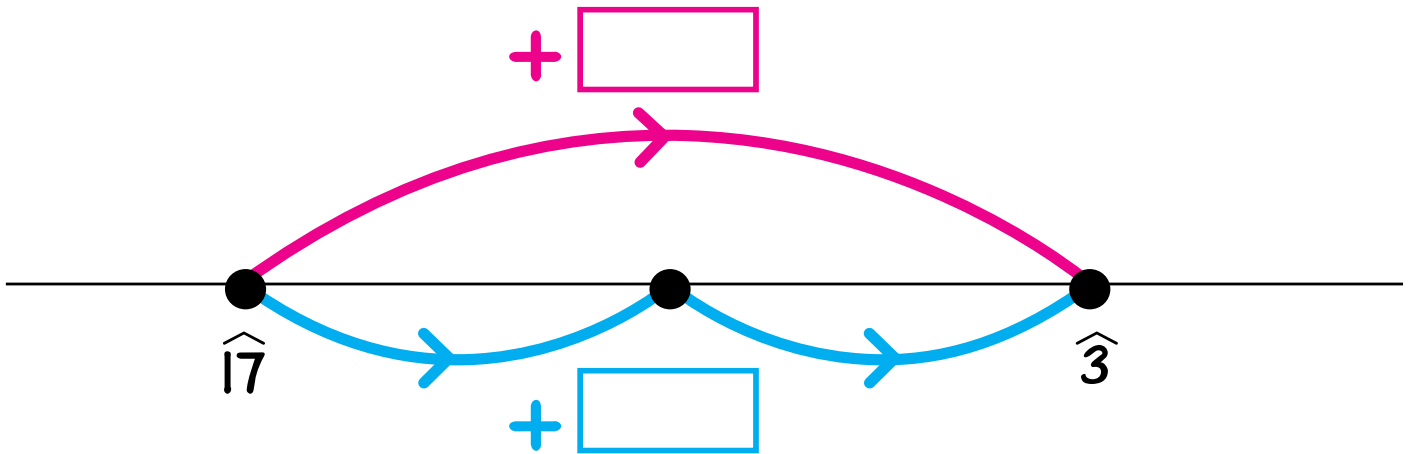
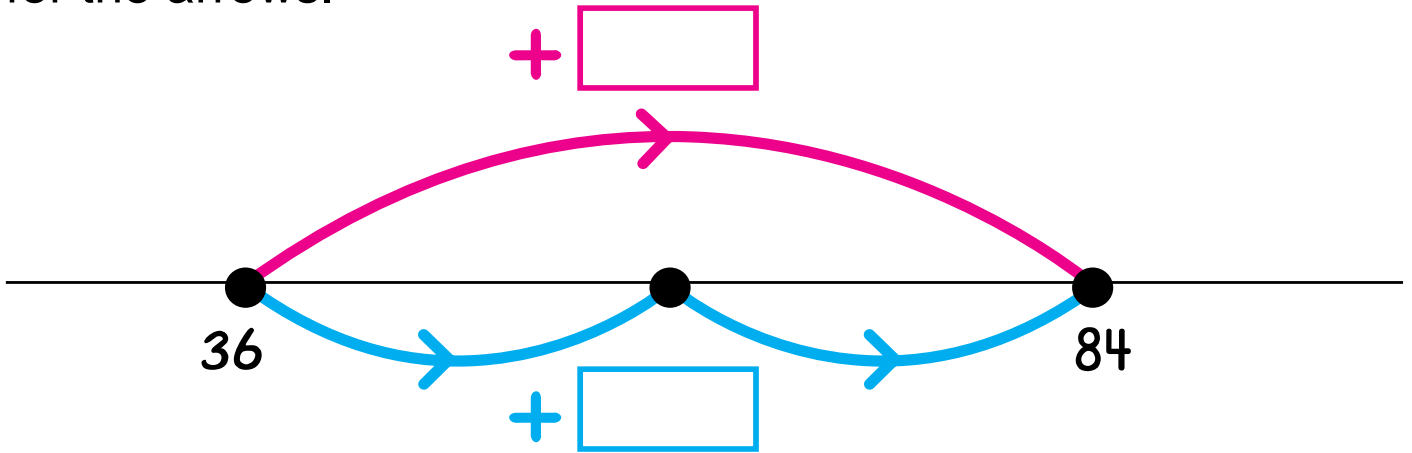
Brunei, Borneo is very hot and quite rainy in February.

Mexico City, Mexico has the same temperature as Cairo in February. Beijing, China is cool and dry in February.

In which of these pictures is the area of the red triangle half the area of the blue rectangle? Write either “yes” or “no” by each.



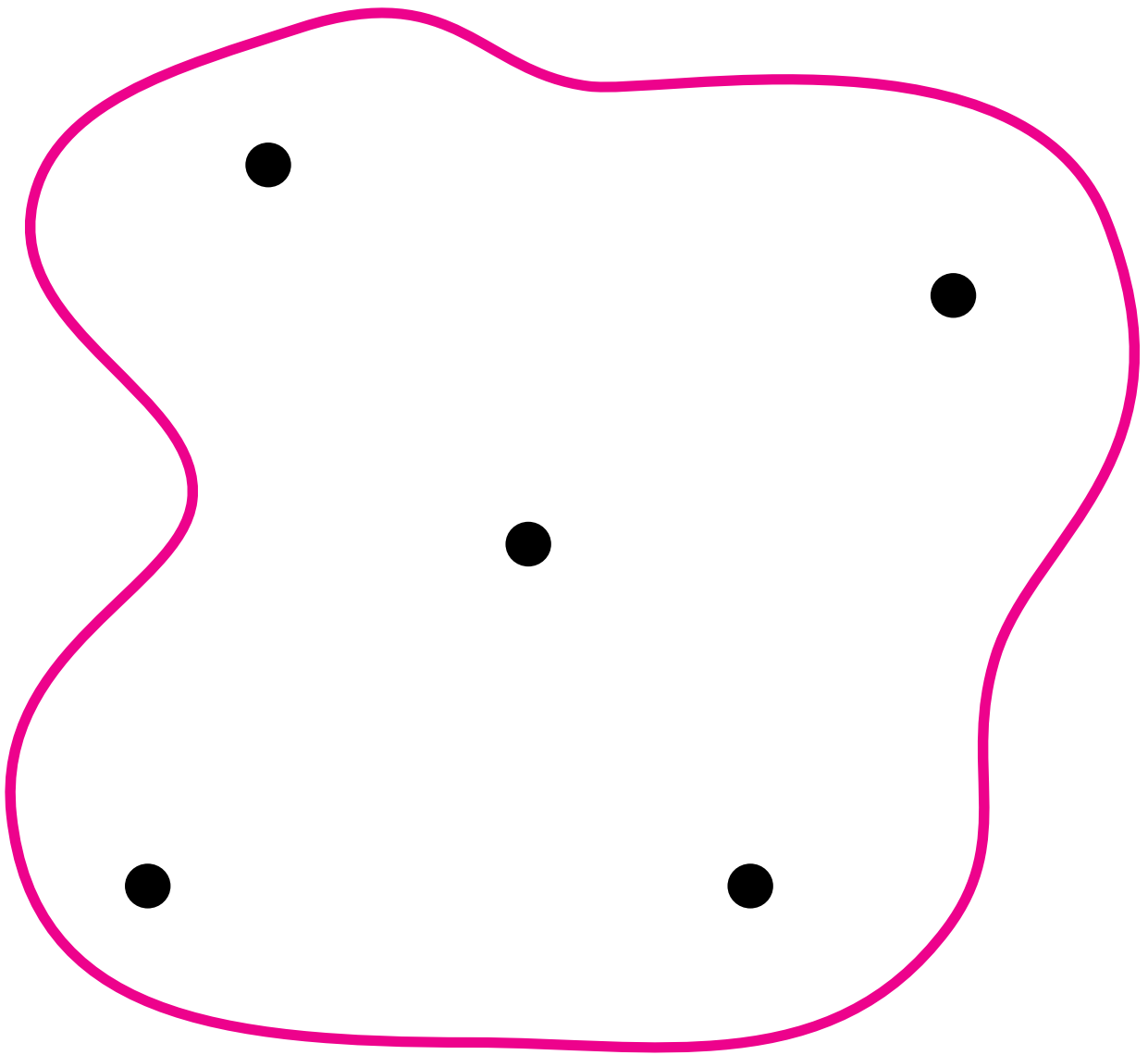
On each number line, label the middle dot with the number halfway between the two given numbers. Fill in the boxes for the arrows.



Label the five dots with whole numbers so that

- all of them are greater than 2;
- at least three of them are divisors of 30; and
- at most two of them are multiples of 5.

Many answers are possible.





## How Close Can You Get?

What is the closest number you can get to 79 by adding fives to 32? \_\_\_\_\_

How many fives did you add? \_\_\_\_\_

$$\boxed{32} \boxed{+} \boxed{5} \boxed{=} \boxed{=} \dots$$

What is the closest number you can get to 68 by adding fours to 15? \_\_\_\_\_

How many fours did you add? \_\_\_\_\_

$$\boxed{15} \boxed{+} \boxed{4} \boxed{=} \boxed{=} \dots$$

What is the closest number you can get to 100 by adding eights to 46? \_\_\_\_\_

How many eights did you add? \_\_\_\_\_

$$\boxed{46} \boxed{+} \boxed{8} \boxed{=} \boxed{=} \dots$$

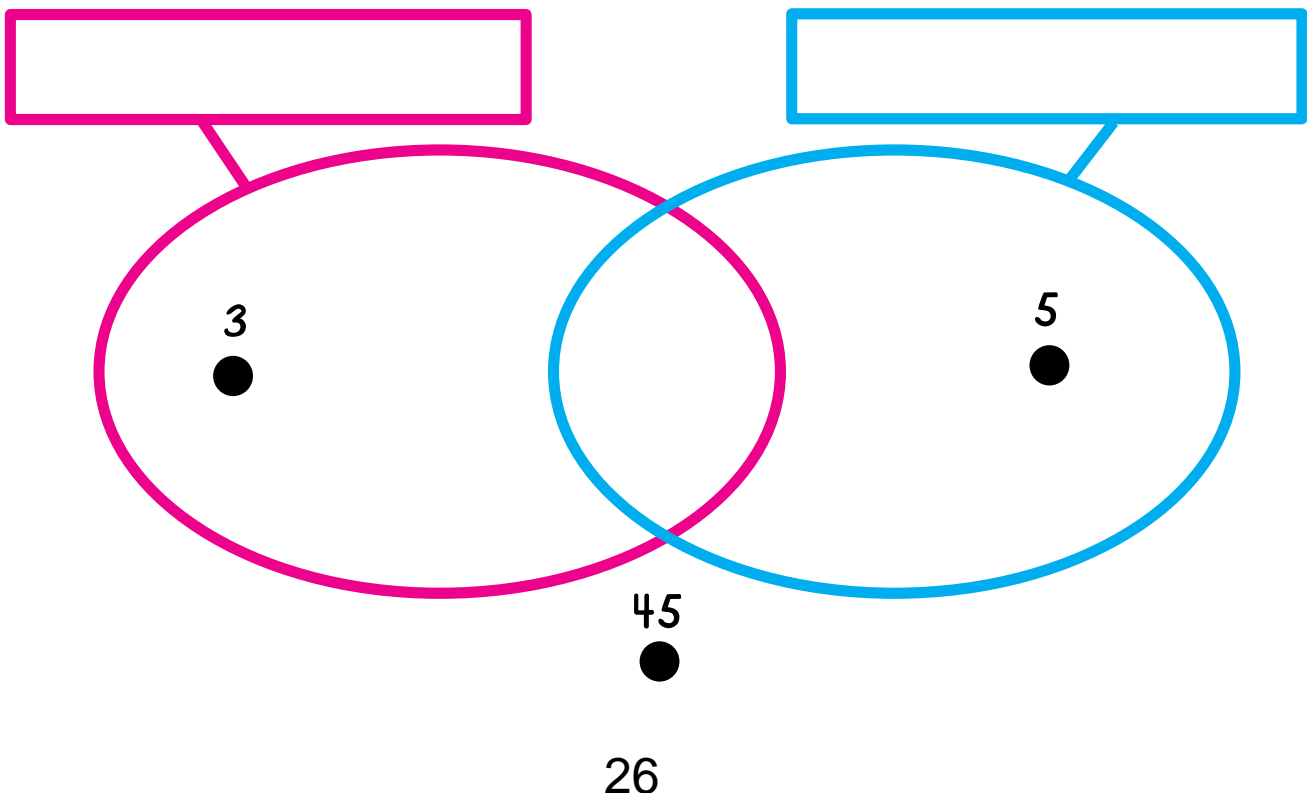
The red label is one of these:

The blue label is one of these:

<b>Positive prime numbers</b>
<b>Multiples of 3</b>
<b>Multiples of 5</b>
<b>Positive divisors of 12</b>
<b>Positive divisors of 20</b>
<b>Greater than <math>\widehat{10}</math></b>
<b>Less than 100</b>
<b>Odd numbers</b>

<b>Positive prime numbers</b>
<b>Multiples of 3</b>
<b>Multiples of 5</b>
<b>Positive divisors of 12</b>
<b>Positive divisors of 20</b>
<b>Greater than <math>\widehat{10}</math></b>
<b>Less than 100</b>
<b>Odd numbers</b>

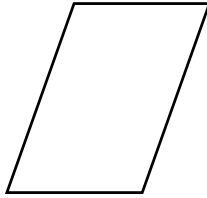
Label the strings.



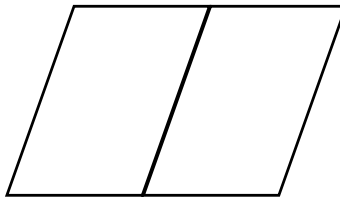
# How Many Parallelograms?

How many parallelograms can you find in each picture?

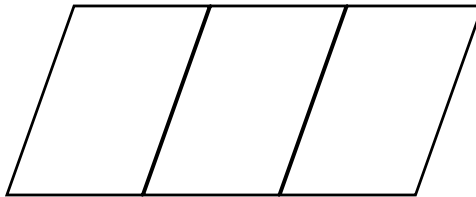
  1   parallelogram



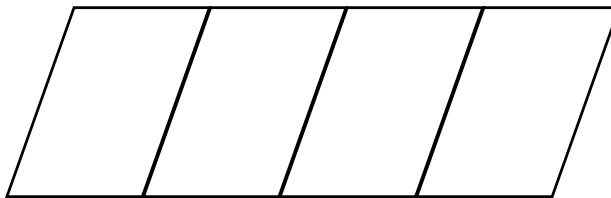
  3   parallelograms



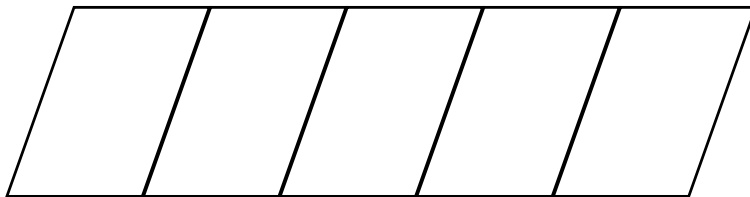
       parallelograms



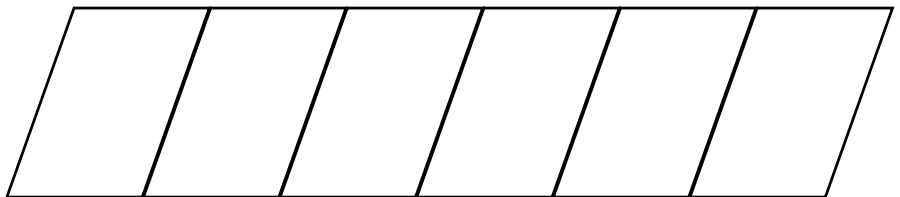
       parallelograms



       parallelograms



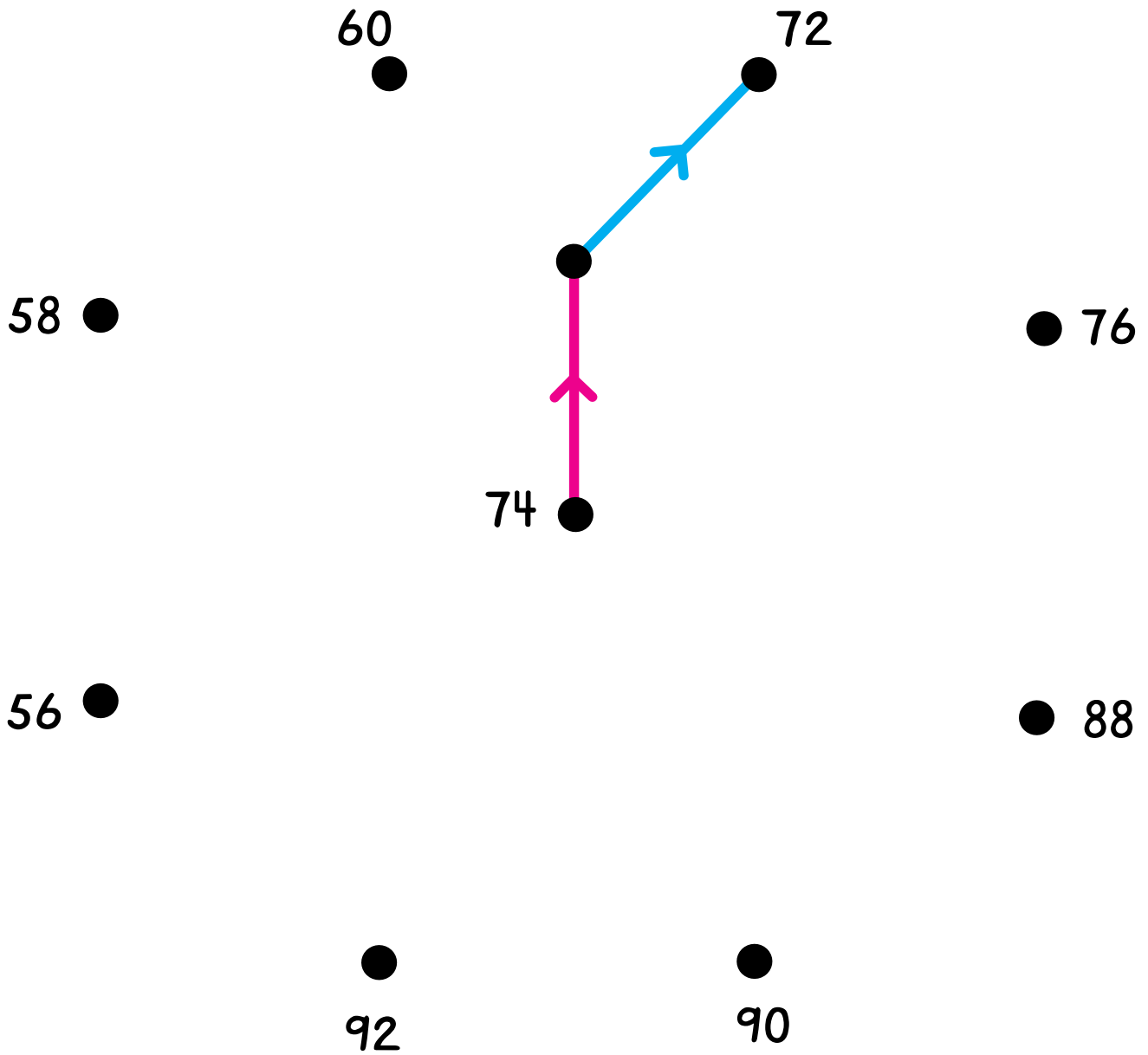
       parallelograms



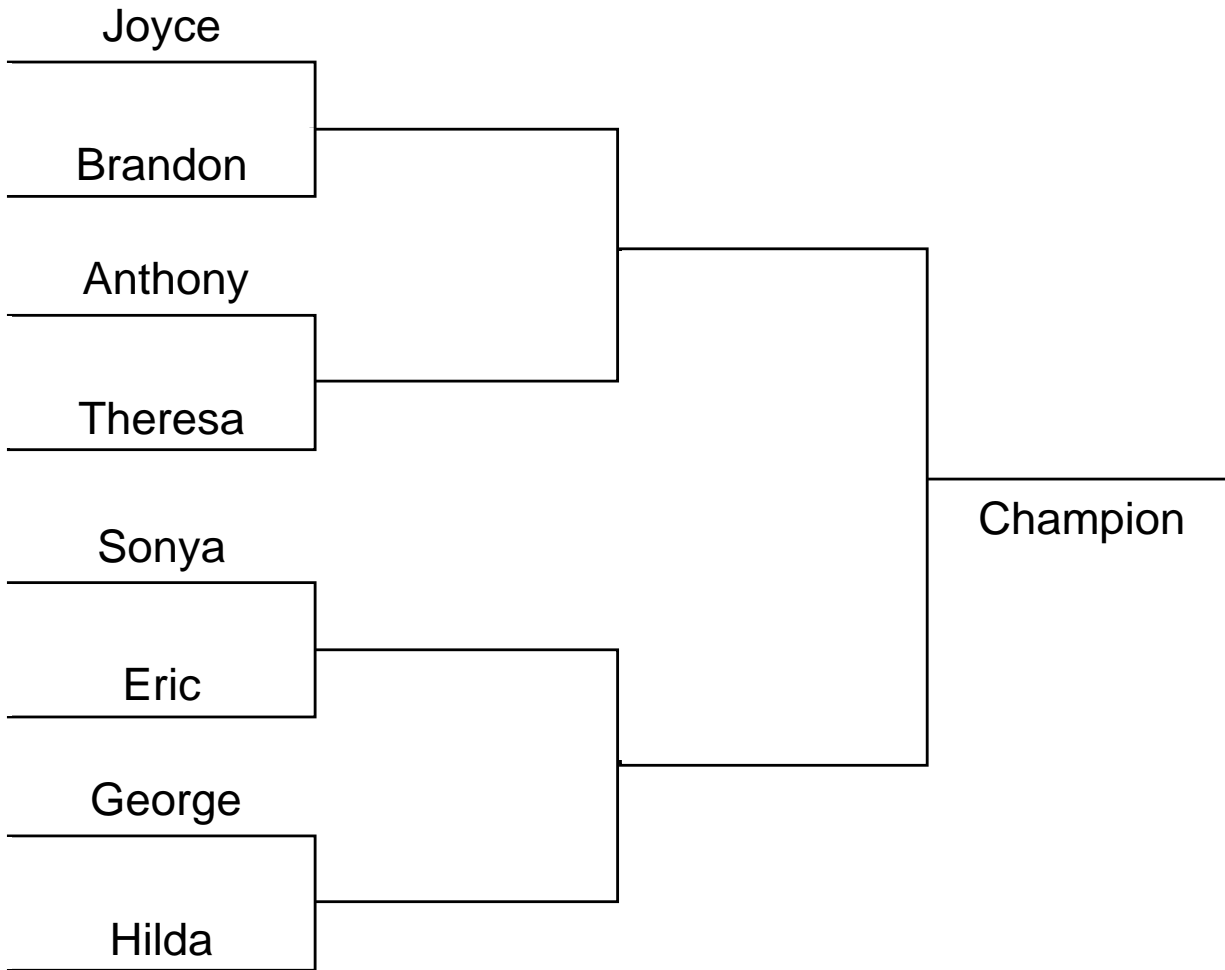
Connect 74 to each of the other numbers using exactly two arrows. One is done for you.

+7

-9



Eight players compete in a tennis tournament. The chart below shows how a winner is determined after three rounds.



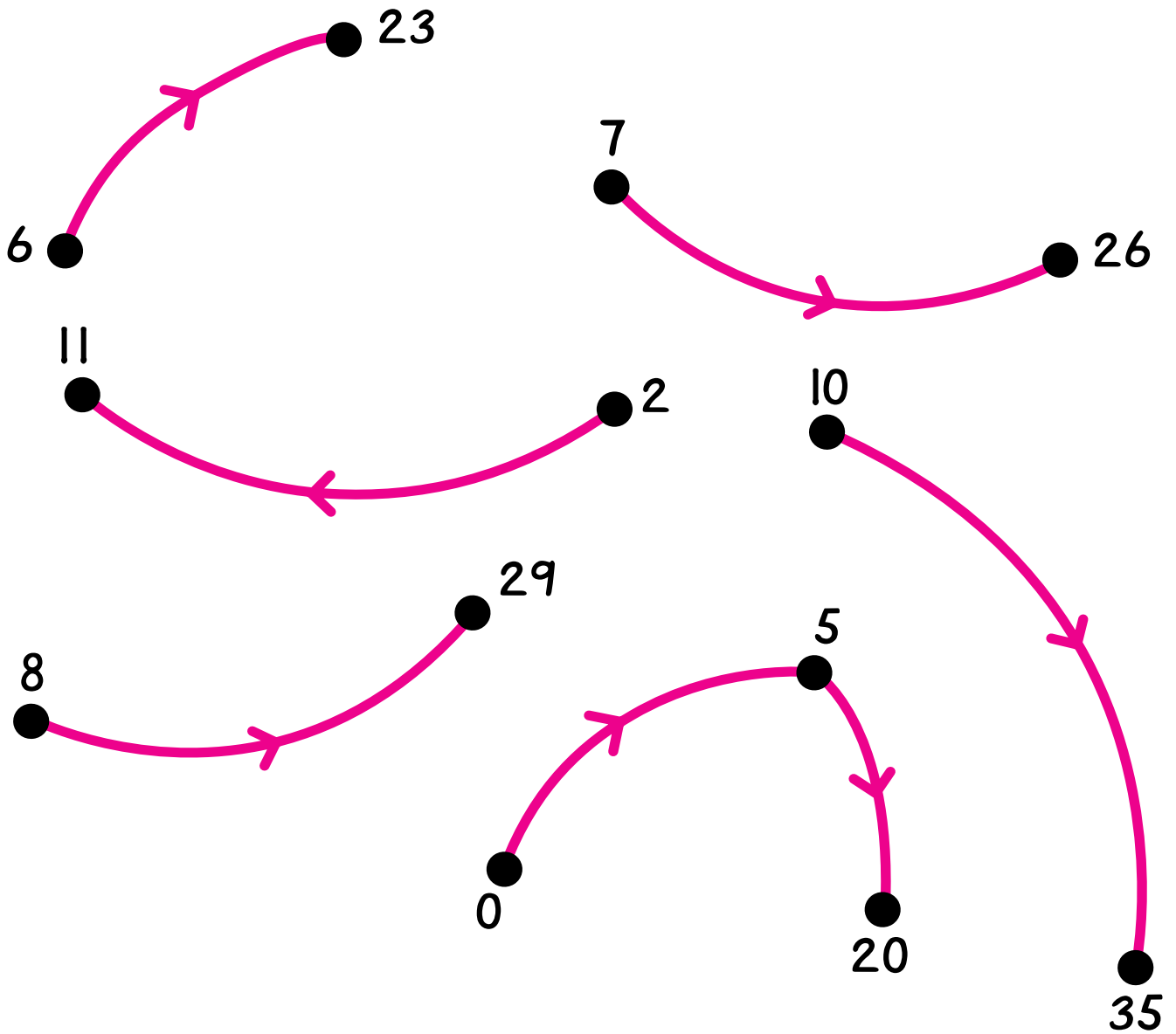
- Anthony wins the second round against Joyce.
- Sonya wins two matches and loses one.
- George loses to Hilda in the first round.

Complete the chart to show the tournament information.

Who is the champion? \_\_\_\_\_

# Guess My Rule

The same rule holds for all of the red arrows.



Explain a rule for the red arrows.

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In one work week, Carrie spent these amounts of money for lunch.

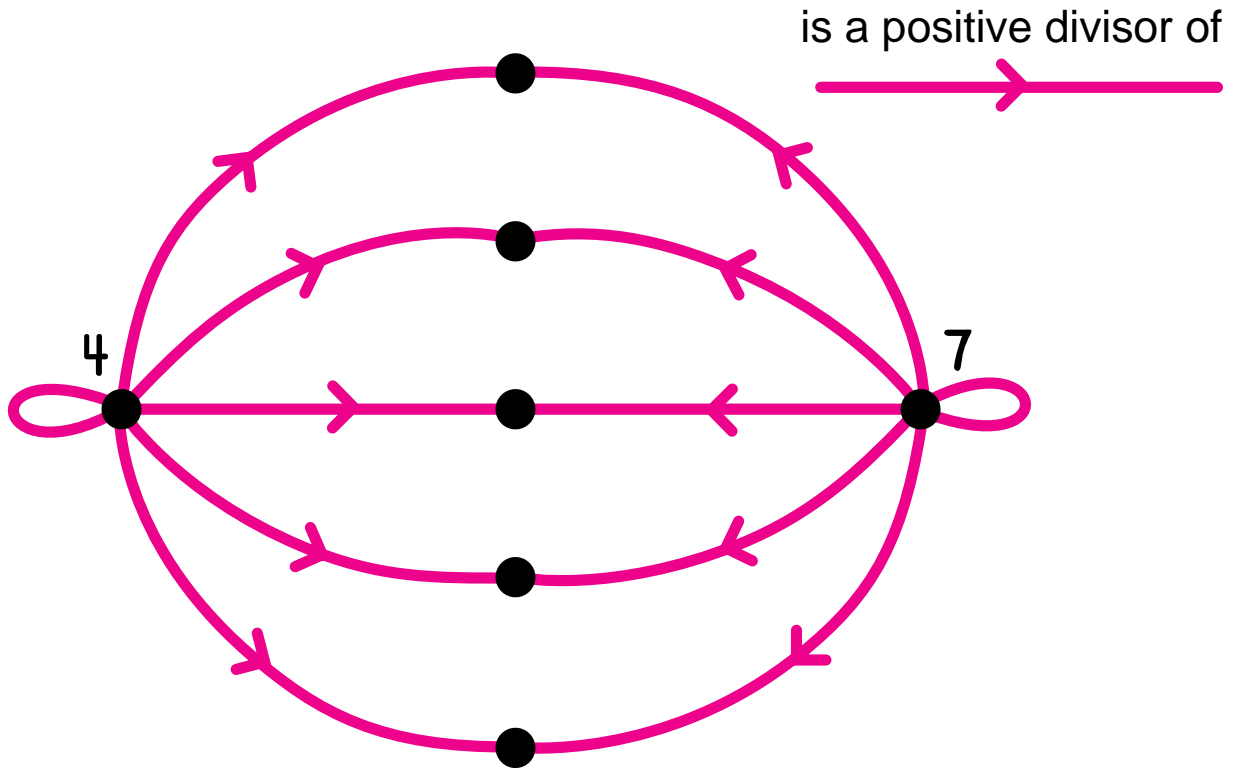
Monday	Tuesday	Wednesday	Thursday	Friday
<b>\$2.15</b>	<b>\$1.75</b>	<b>\$1.30</b>	<b>\$2.45</b>	<b>\$1.60</b>

How much did Carrie spend altogether on lunch this week? \_\_\_\_\_

What was Carrie's average daily expense for lunch this week? \_\_\_\_\_

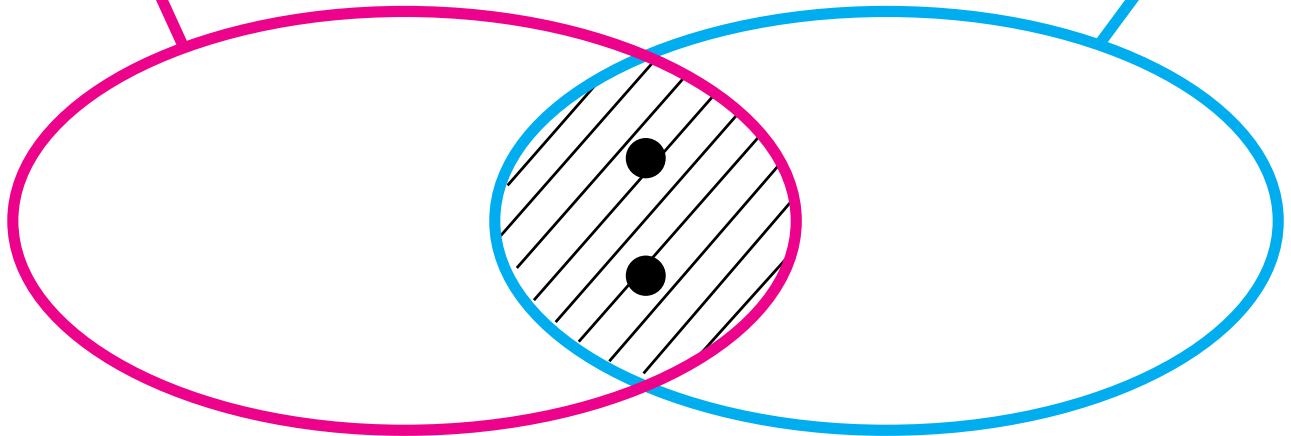


Label the dots. Many solutions are possible.



Positive divisors of

Multiples of 5



Name at least four numbers that could go in the box. \_\_\_\_\_