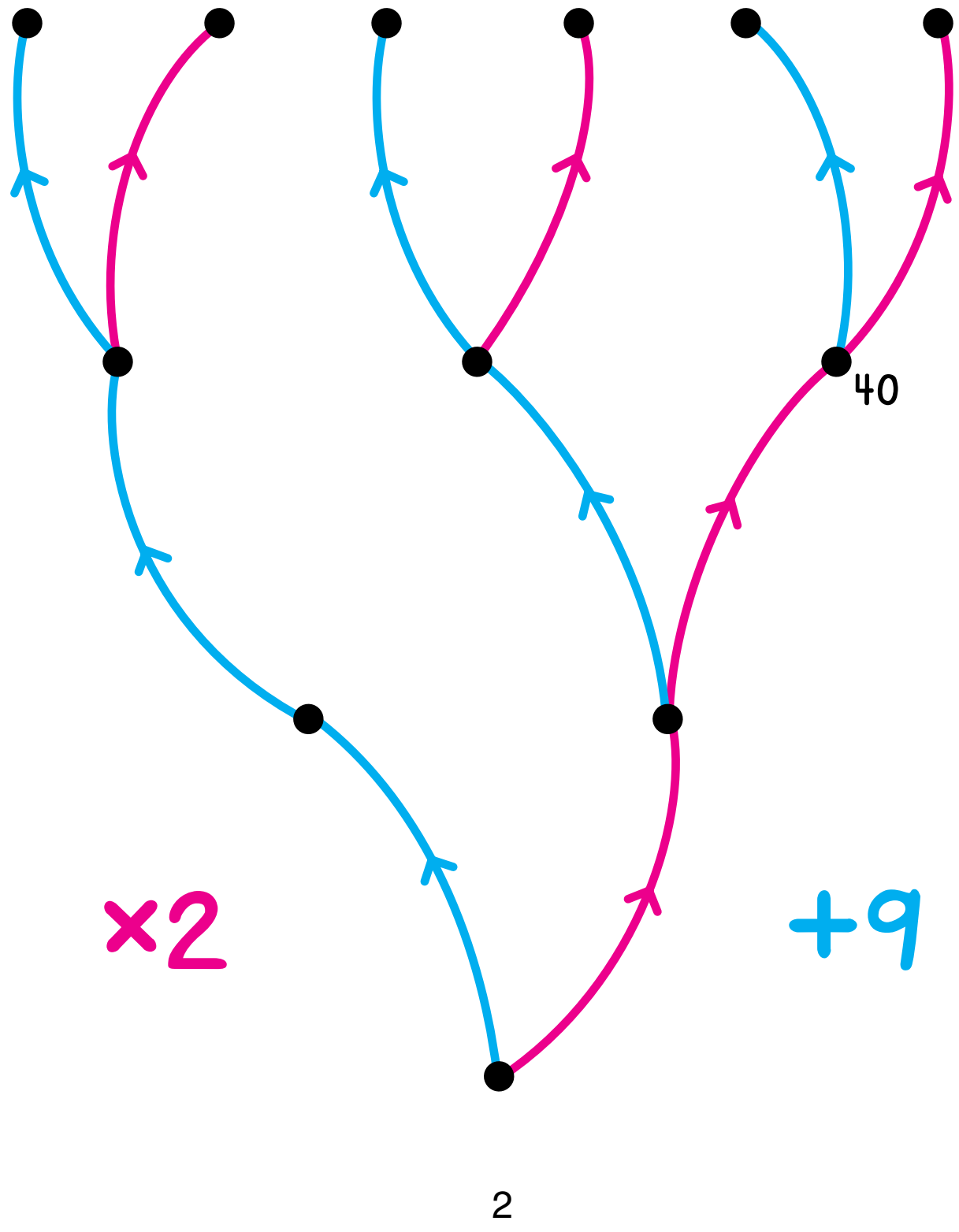


Name _____

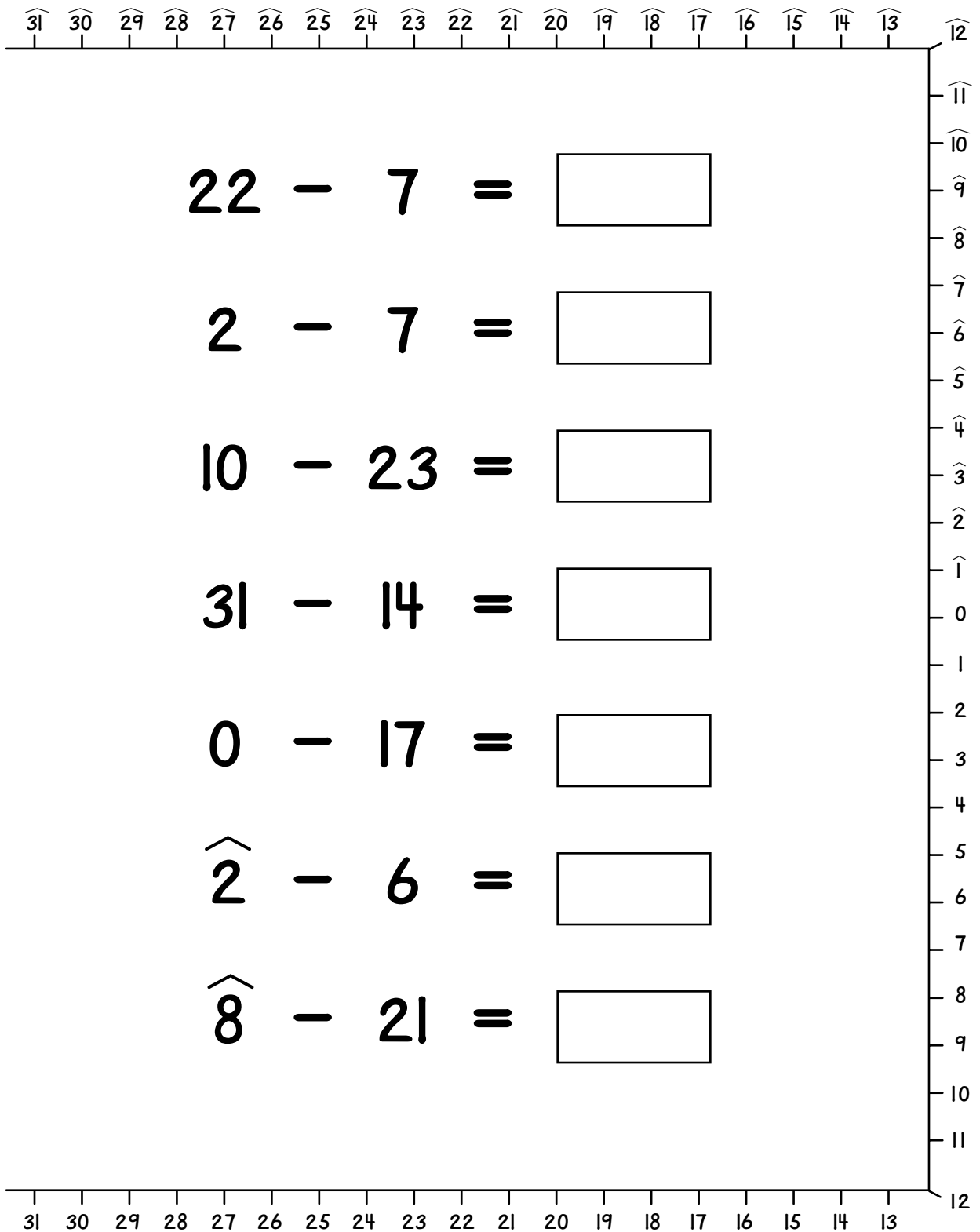
Variety of Problems #1

Label the dots.

56 and 58 are in this picture. Circle their dots.



Fill in the boxes.



Put these numbers correctly in this string picture.

6

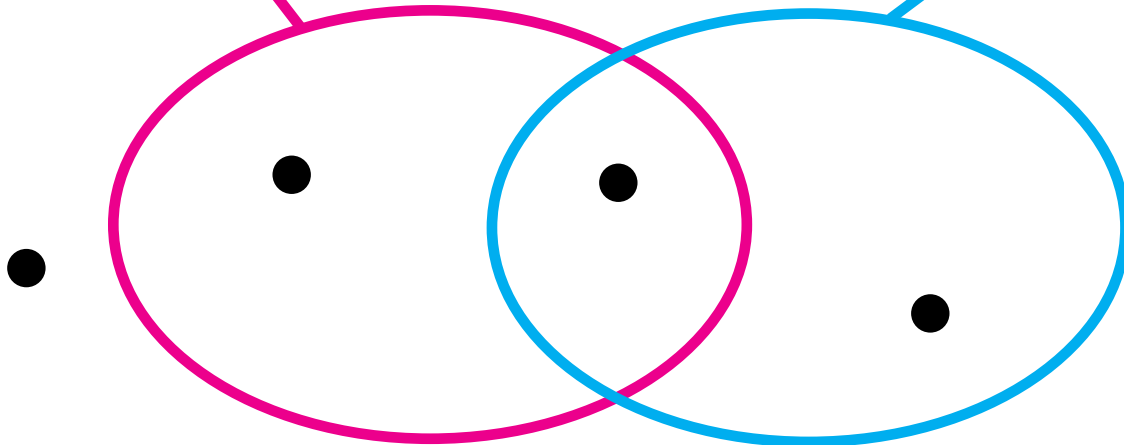
7

8

9

Positive divisors of 18

Odd numbers



Put these numbers correctly in this string picture.

$\widehat{15}$

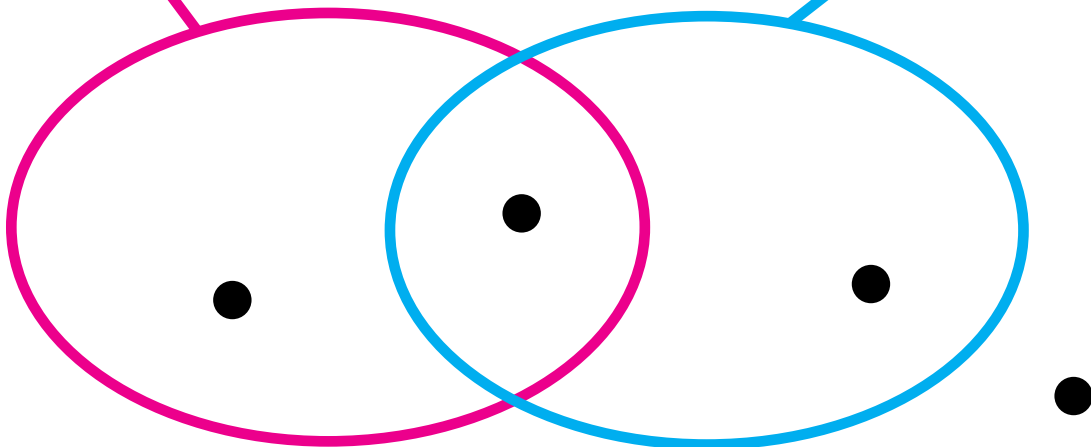
5

21

17

Positive prime numbers

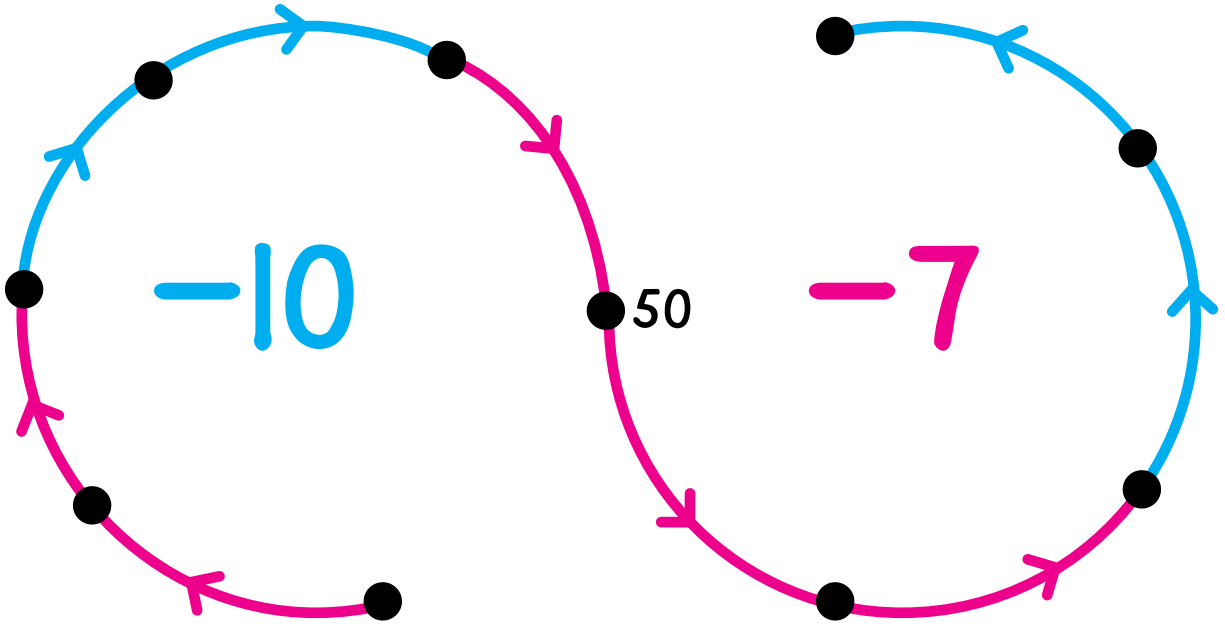
Less than 10



Kwat is a secret number.

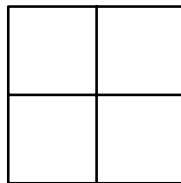
Clue 1

Kwat is in this arrow picture.



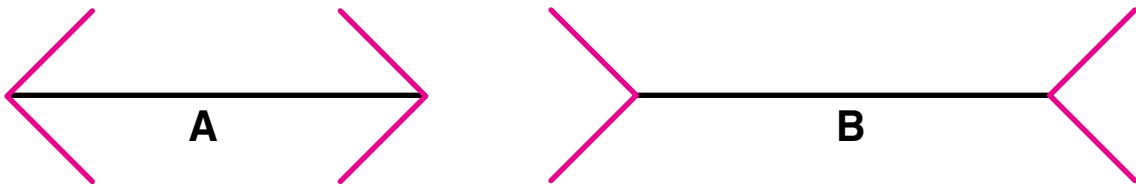
Clue 2

Kwat can be put on this Minicomputer with exactly one $\textcircled{9}$ -checker.

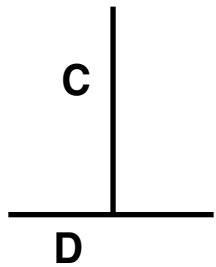


Who is Kwat? _____

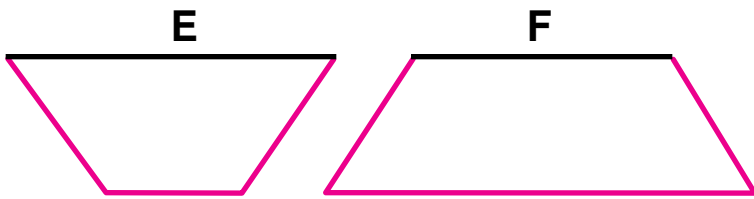
For each picture, circle the statement you think is true about the length of the two black segments. Do not measure them.



A is longer than B. A is the same length as B. A is shorter than B.



C is longer than D.
C is the same length as D.
C is shorter than D.



E is longer than F.
E is the same length as F.
E is shorter than F.

Measure the black line segments to check if your guesses were correct.

A: _____ cm B: _____ cm Was your guess correct? _____

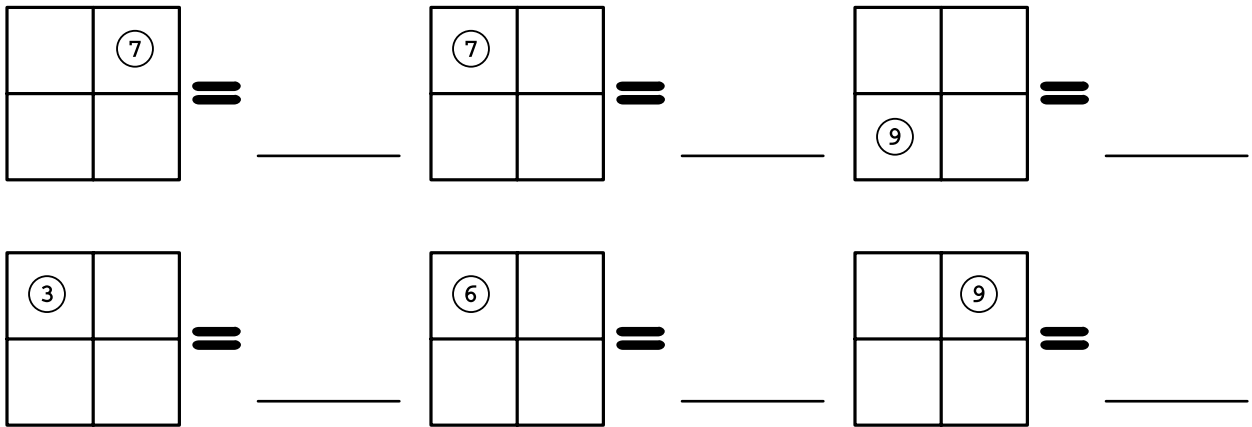
C: _____ cm D: _____ cm Was your guess correct? _____

E: _____ cm F: _____ cm Was your guess correct? _____

Klik is a secret number.

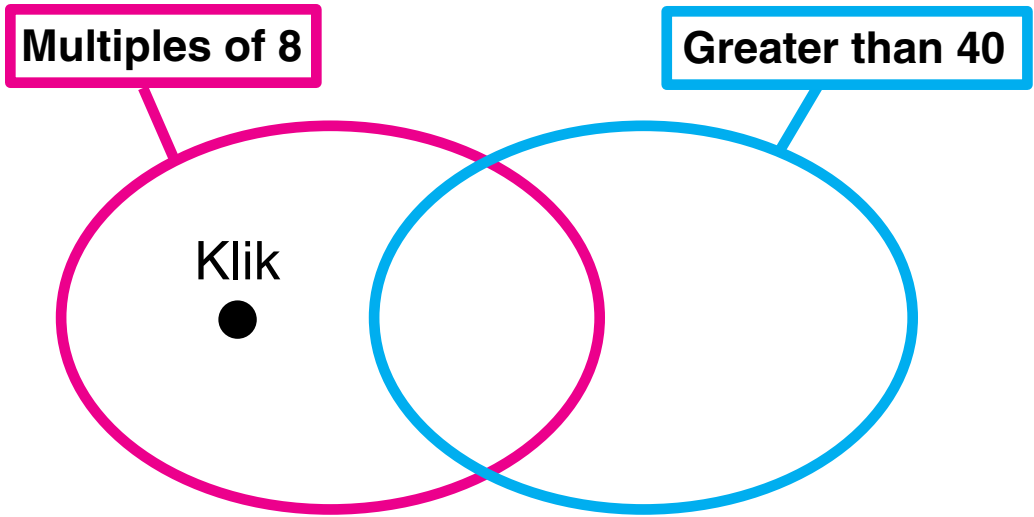
Clue 1

Klik is one of these numbers on the Minicomputer.



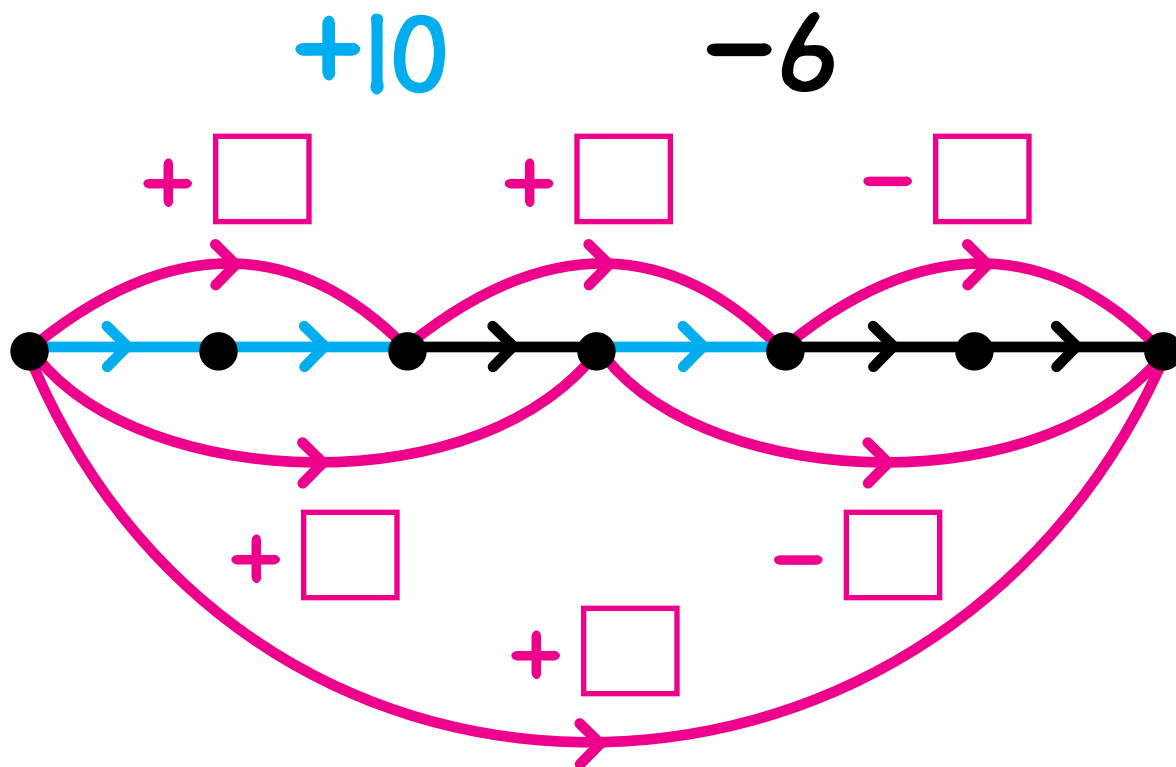
Clue 2

Klik is in this string picture.

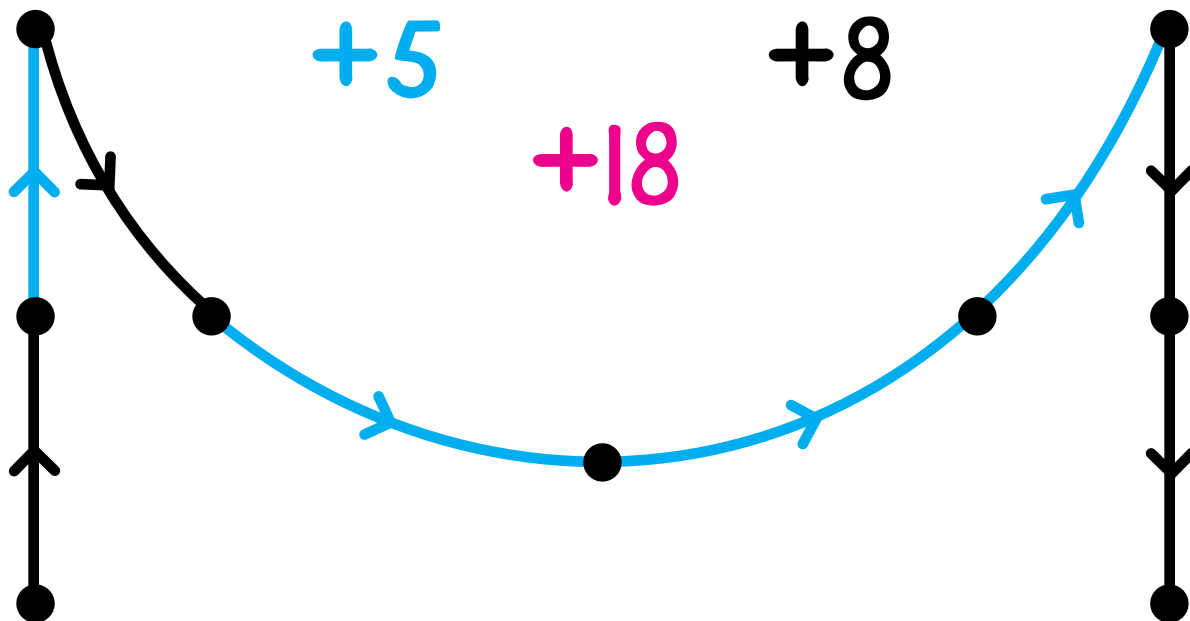


Who is Klik? _____

Label the red arrows.



Draw three $+18$ arrows in red in this picture.



Put each number on the Minicomputer using exactly one of these checkers:

② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 32$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 72$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 120$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 400$$

Put each number on the Minicomputer using exactly two of these checkers:

② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 46$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 68$$

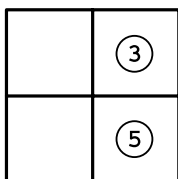
$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 150$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 300$$

Zoe is a secret number.

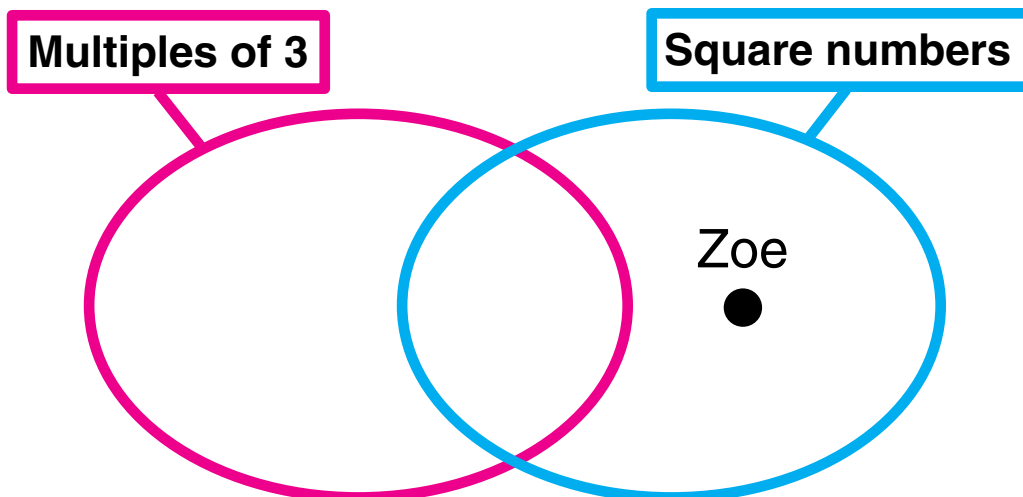
Clue 1

Zoe can be put on this Minicomputer by adding one negative checker.



Zoe could be _____, _____, _____, or _____.

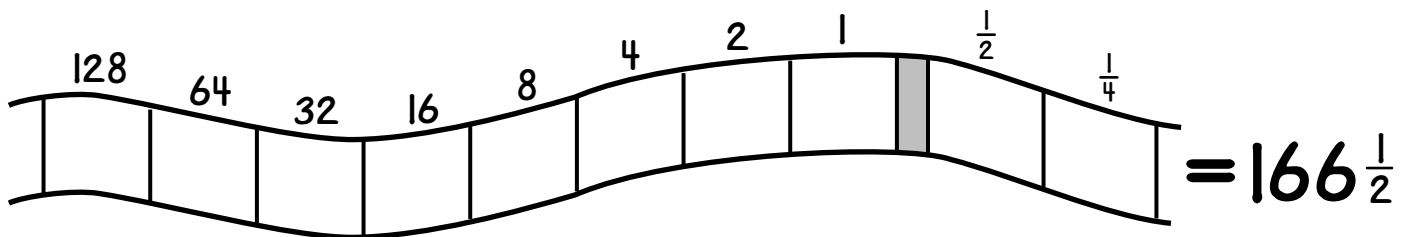
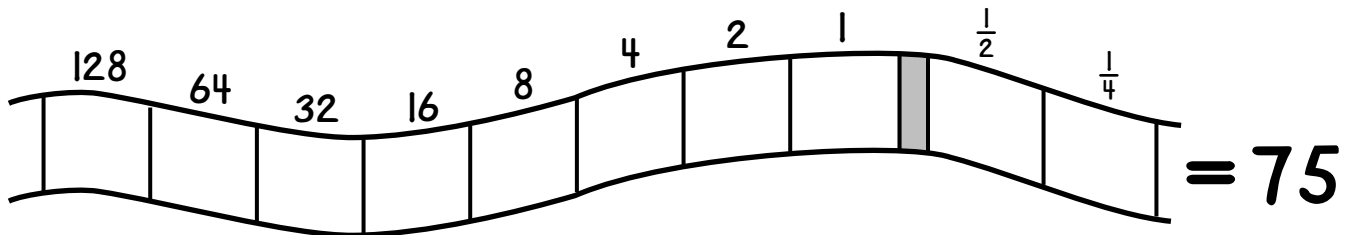
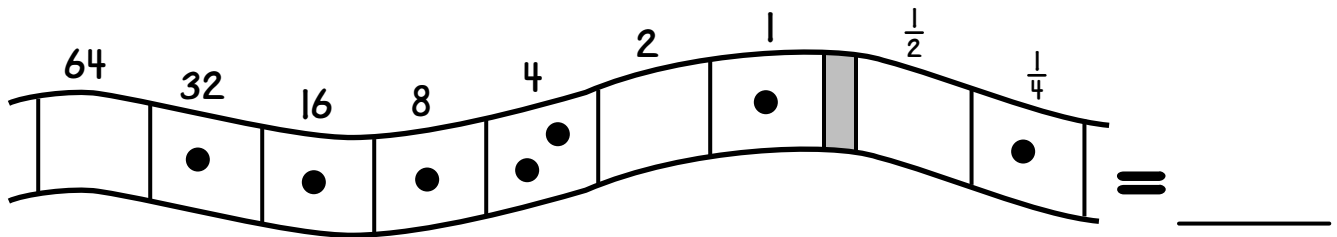
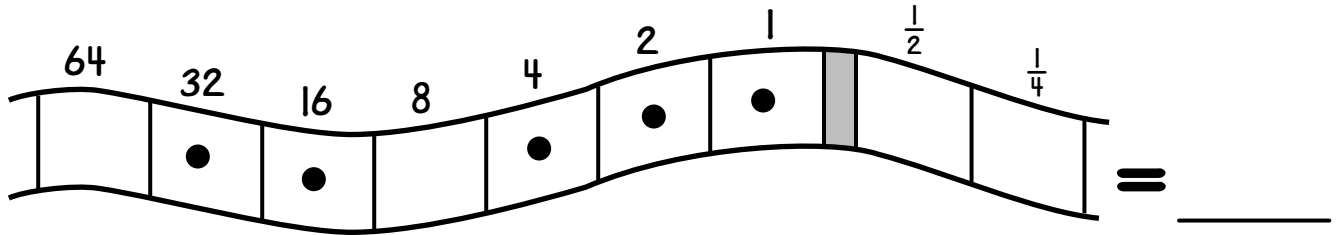
Clue 2



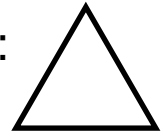
Who is Zoe? _____

BINARY ABACUS

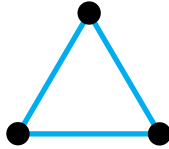
Complete.



For each picture, count the dots and the small triangles:

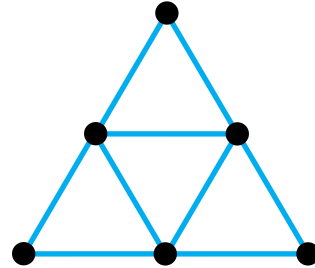


1 row



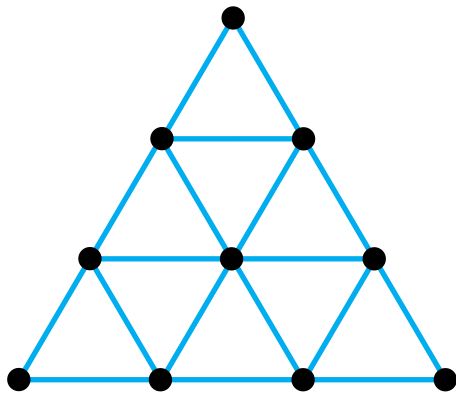
Number of dots _____
Number of small triangles _____

2 rows



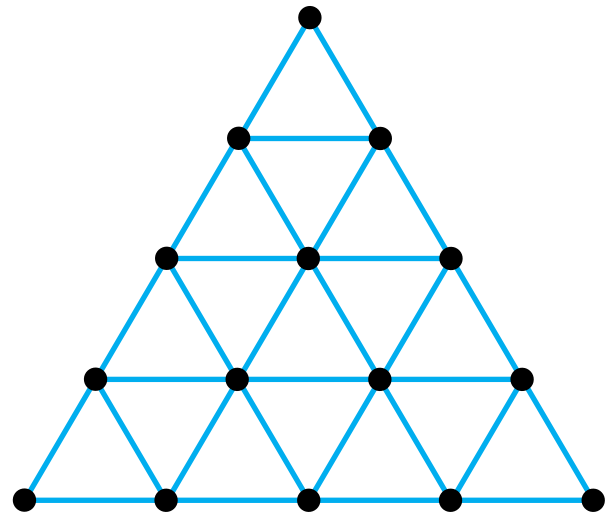
Number of dots _____
Number of small triangles _____

3 rows



Number of dots _____
Number of small triangles _____

4 rows



Number of dots _____
Number of small triangles _____

Use your answers on page 12 to complete this table. Ask your teacher to check the numbers in your table before you finish the page.

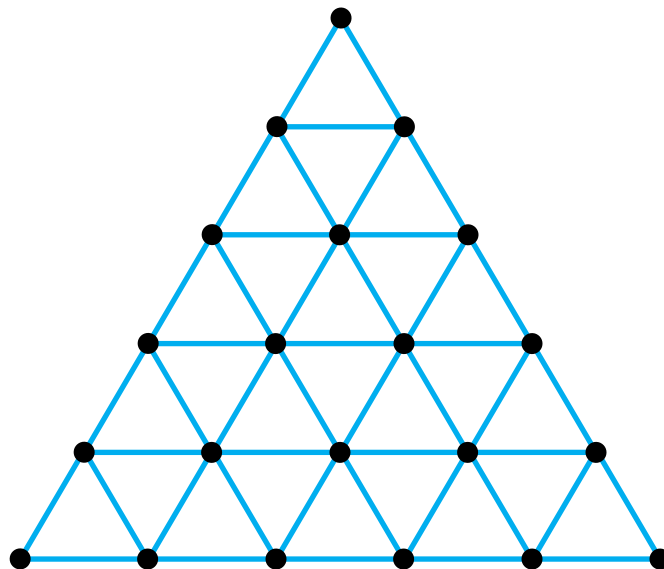
Number of rows	1	2	3	4	5
Number of dots					?
Number of small triangles					?

Look for number patterns in this table.

Use a pattern to predict the number of dots in a figure with 5 rows. _____

Use a pattern to predict the number of small triangles in a figure with 5 rows. _____

Use this picture to check your predictions.



Number of dots _____ Was your prediction correct? _____

Number of small triangles _____ Was your prediction correct? _____

Add.

$$\begin{array}{r} 654 \\ + 168 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 321 \\ - 153 \\ \hline \end{array}$$

Multiply.

$$156 \times 4$$

Subtract.

$$25.7 - 18$$

Add.

$$96.36 + 107.5$$

Multiply.

$$\begin{array}{r} 89 \\ \times 12 \\ \hline \end{array}$$

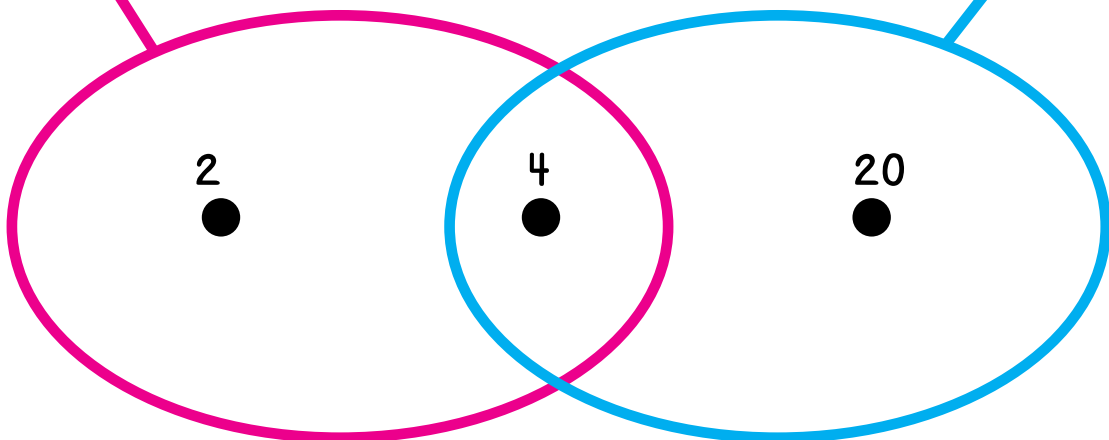
The red label is one of these:

The blue label is one of these:

- Multiples of 2
- Multiples of 4
- Multiples of 5
- Positive divisors of 24
- Positive divisors of 20
- Greater than $\widehat{10}$
- Less than 10

- Multiples of 2
- Multiples of 4
- Multiples of 5
- Positive divisors of 24
- Positive divisors of 20
- Greater than $\widehat{10}$
- Less than 10

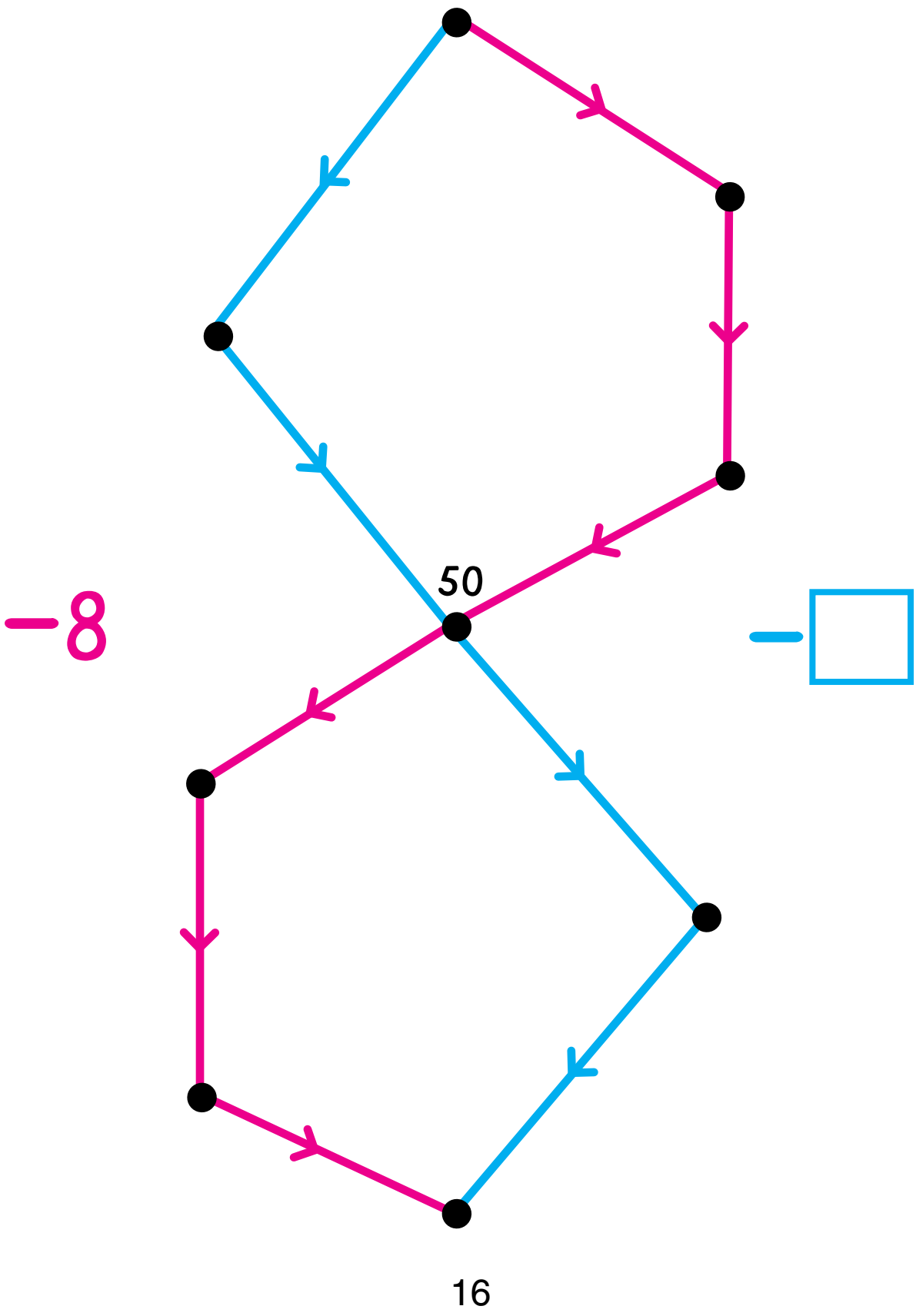
Label the strings.



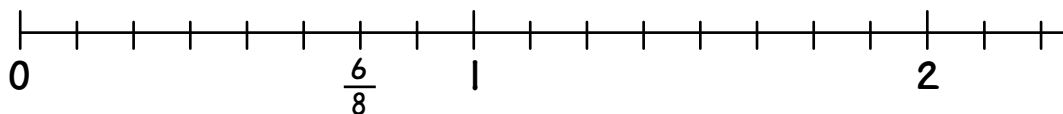
$\widehat{10}$

15

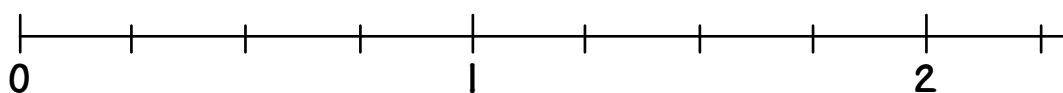
Label the dots. Fill in the box for the blue arrows.



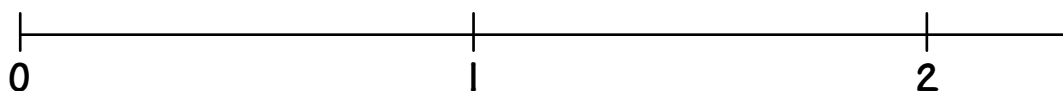
Locate $\frac{3}{8}$ and $\frac{11}{8}$ on this number line.



Locate $\frac{3}{4}$, $\frac{7}{4}$ and $\frac{9}{4}$ on this number line.



Locate $\frac{1}{3}$, $\frac{2}{3}$ and $\frac{5}{3}$ on this number line. Use a ruler.



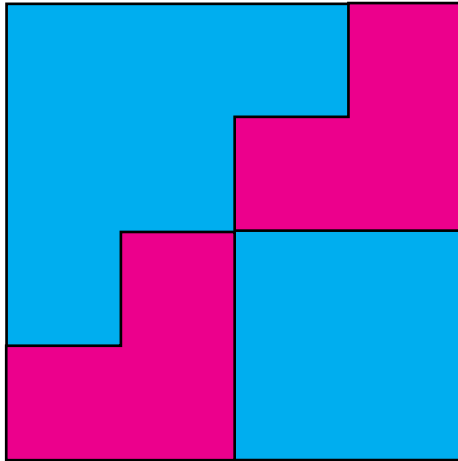
Write $>$, $=$, or $<$ in each box to make a true statement.


$$\frac{3}{8} \square \frac{5}{3}$$

$$\frac{3}{8} \square \frac{3}{4}$$

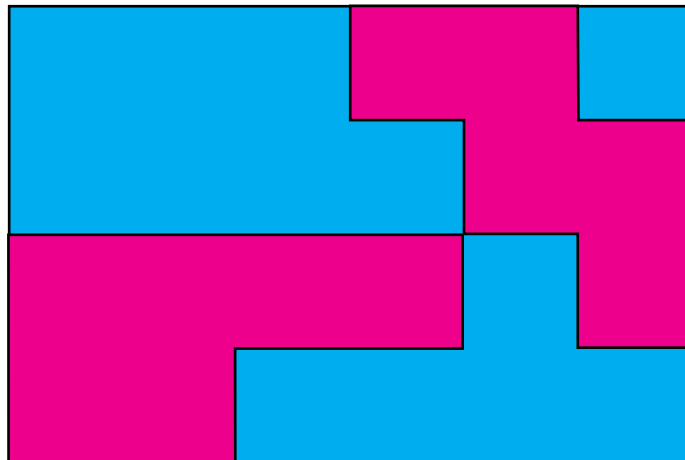
$$\frac{3}{4} \square \frac{6}{8}$$

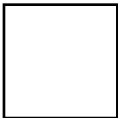
$$\frac{6}{8} \square \frac{2}{3}$$



How many pieces of this size  fit into the red region? _____

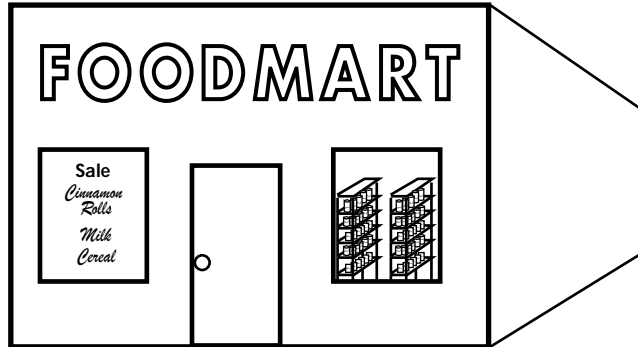
Into the blue region? _____



How many pieces of this size  fit into the red region? _____

Into the blue region? _____

Put these numbers in the blanks so that the paragraph makes sense.

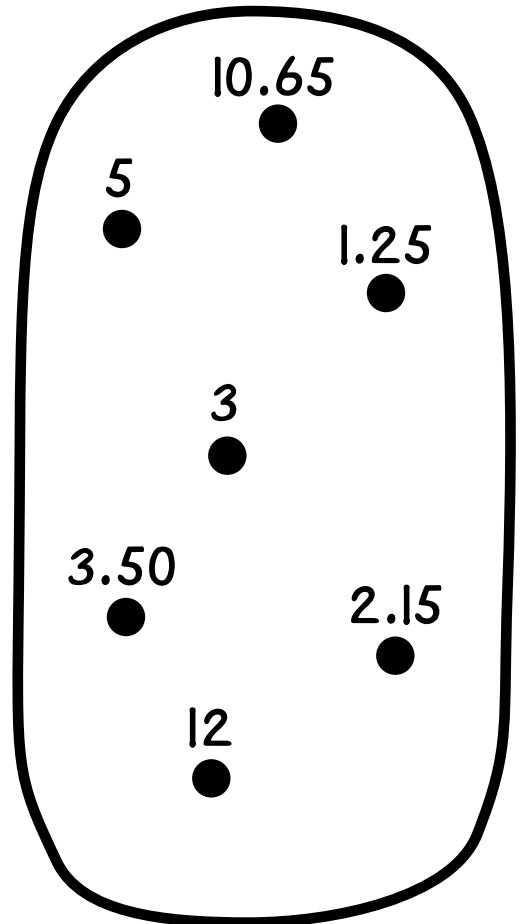


The grocery store sale has
cinnamon rolls _____ for \$_____.

Mr. Clark bought _____ for \$_____.

He also bought milk for \$_____
and a box of cereal for \$_____.

Altogether Mr. Clark spent \$_____.



Zip is a secret number.

Clue 1

One of the symbols +, −, or x belongs in each blank box of the calculator sentence. A symbol may be used more than once.

$$\boxed{8} \boxed{} \boxed{6} \boxed{} \boxed{3} = \boxed{\text{Zip}}$$

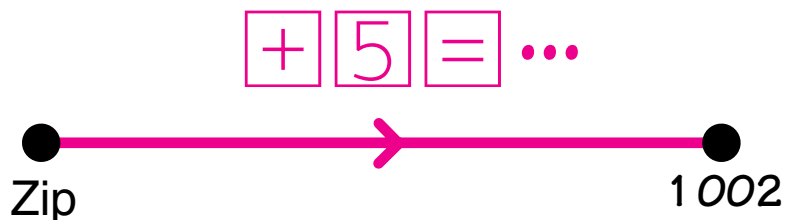
Zip could be _____, _____, _____, _____, _____, _____,
_____, _____, or _____.

Clue 2

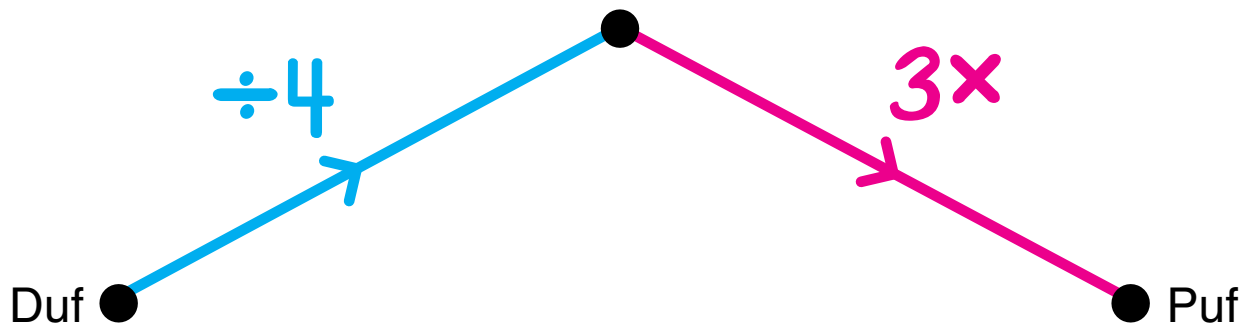
Zip is a positive prime number.

Zip could be _____, _____, or _____.

Clue 3



Who is Zip? _____

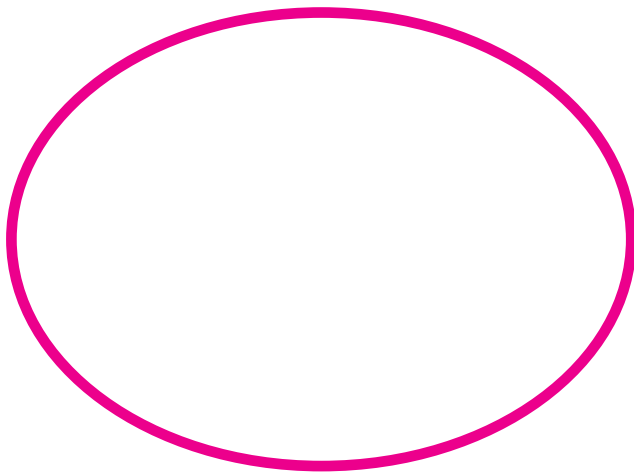


Complete the tables.

Duf	Puf
36	
100	
$\widehat{28}$	
6	
	36
	6

Duf	Puf
32	
320	
3 200	
	63
	630
	6 300

This string has one of these labels: **Positive divisors of 20** or **Multiples of 5**.



Positive divisors of 20

or

Multiples of 5

Draw a circle around each number below that you know for sure belongs inside the red string.

Draw a triangle around each number below that you know for sure belongs outside the red string.

5

1

4

5

7

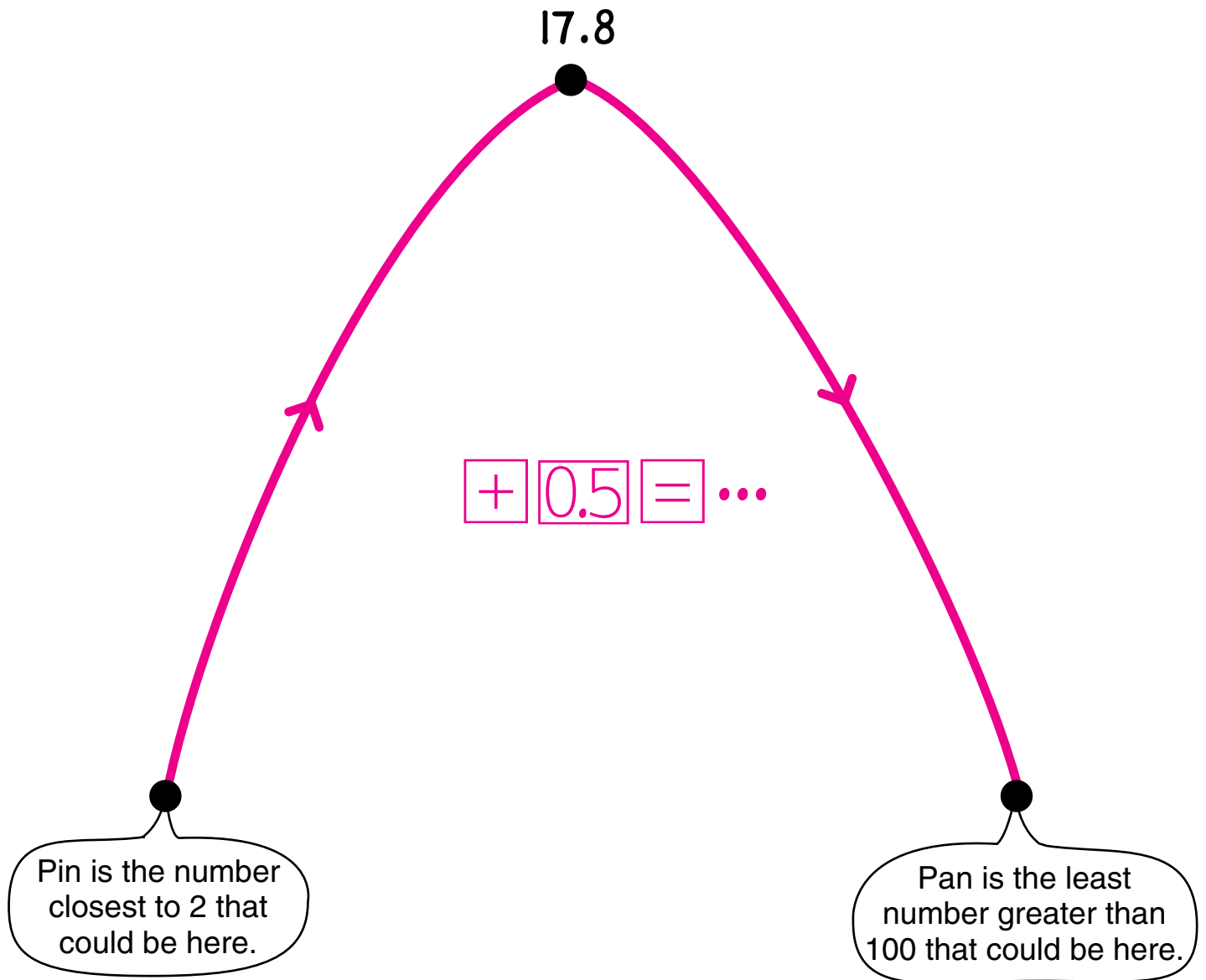
10

23

80

Some of the numbers should have neither a circle nor a triangle around them because we can't tell where they belong.

Pin and Pan are secret numbers in this arrow picture.



Who is Pin? _____

Who is Pan? _____

Put each number on the Minicomputer using exactly one negative checker $\hat{\ominus}$ and exactly one of these checkers:

- 2
3
4
5
6
7
8
9

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 22$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 34$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 55$$

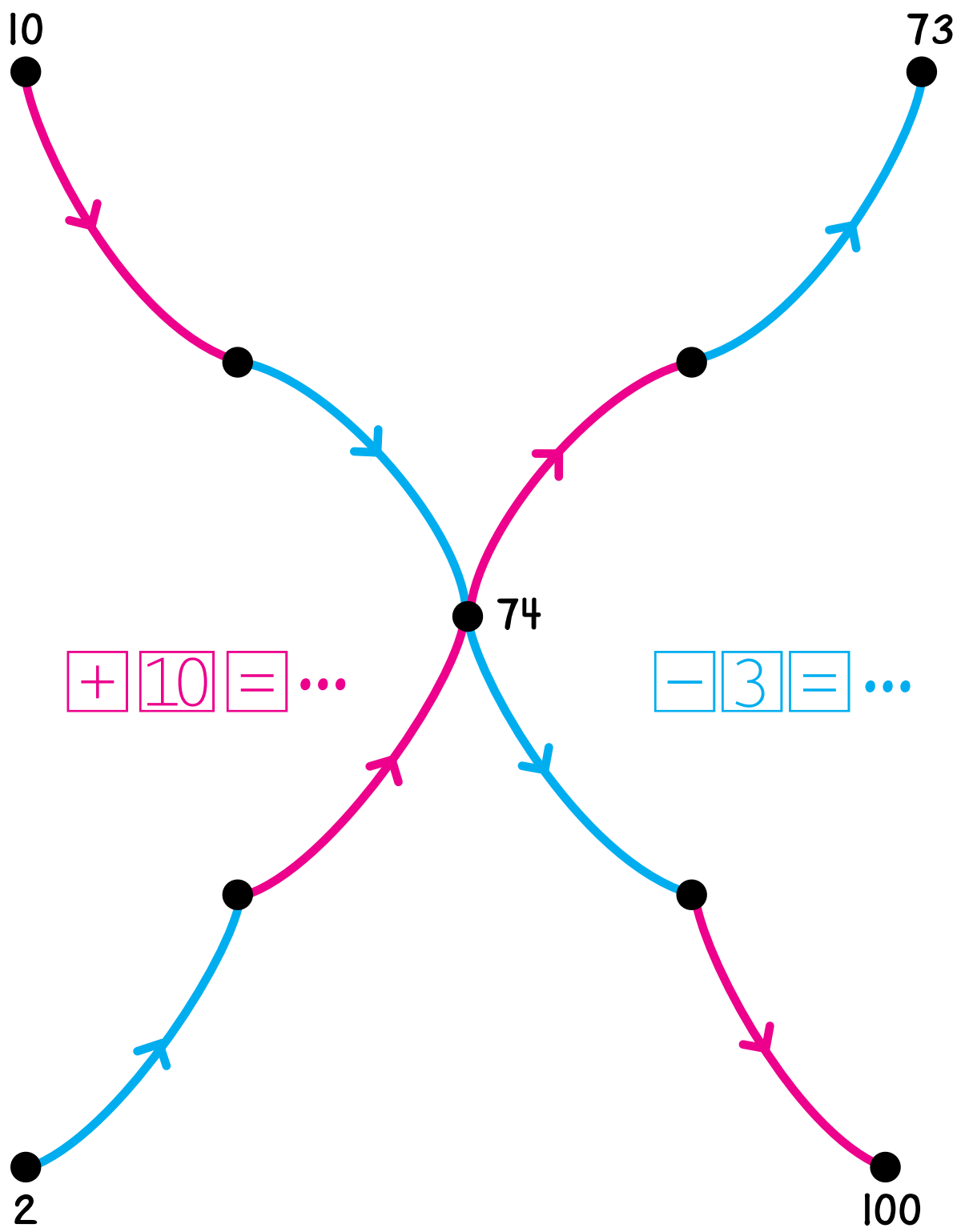
$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = \hat{5}$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 316$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = \hat{12}$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 2780$$

Label the dots. Many solutions are possible.



Raul has 60 tickets. Each ticket is worth either one point or two points. He has a total of 83 points. Explain.

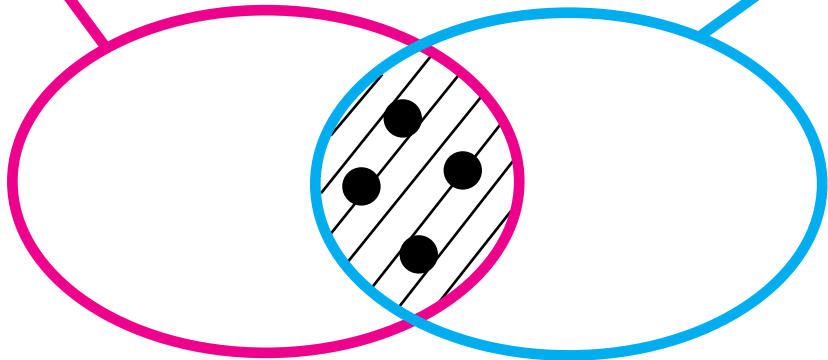
Lori has \$4.10 in dimes and quarters. She has one more quarter than dimes. Explain.

Tim is a secret number.

Clue 1

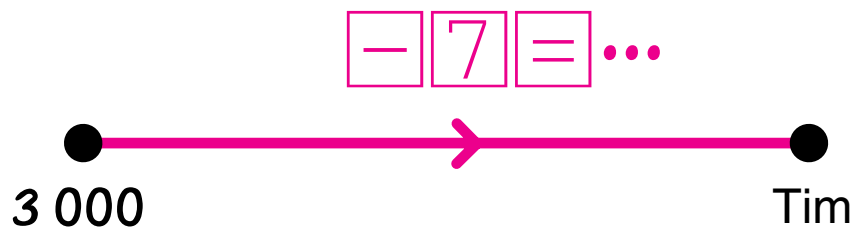
Positive divisors of 24

Multiples of Tim



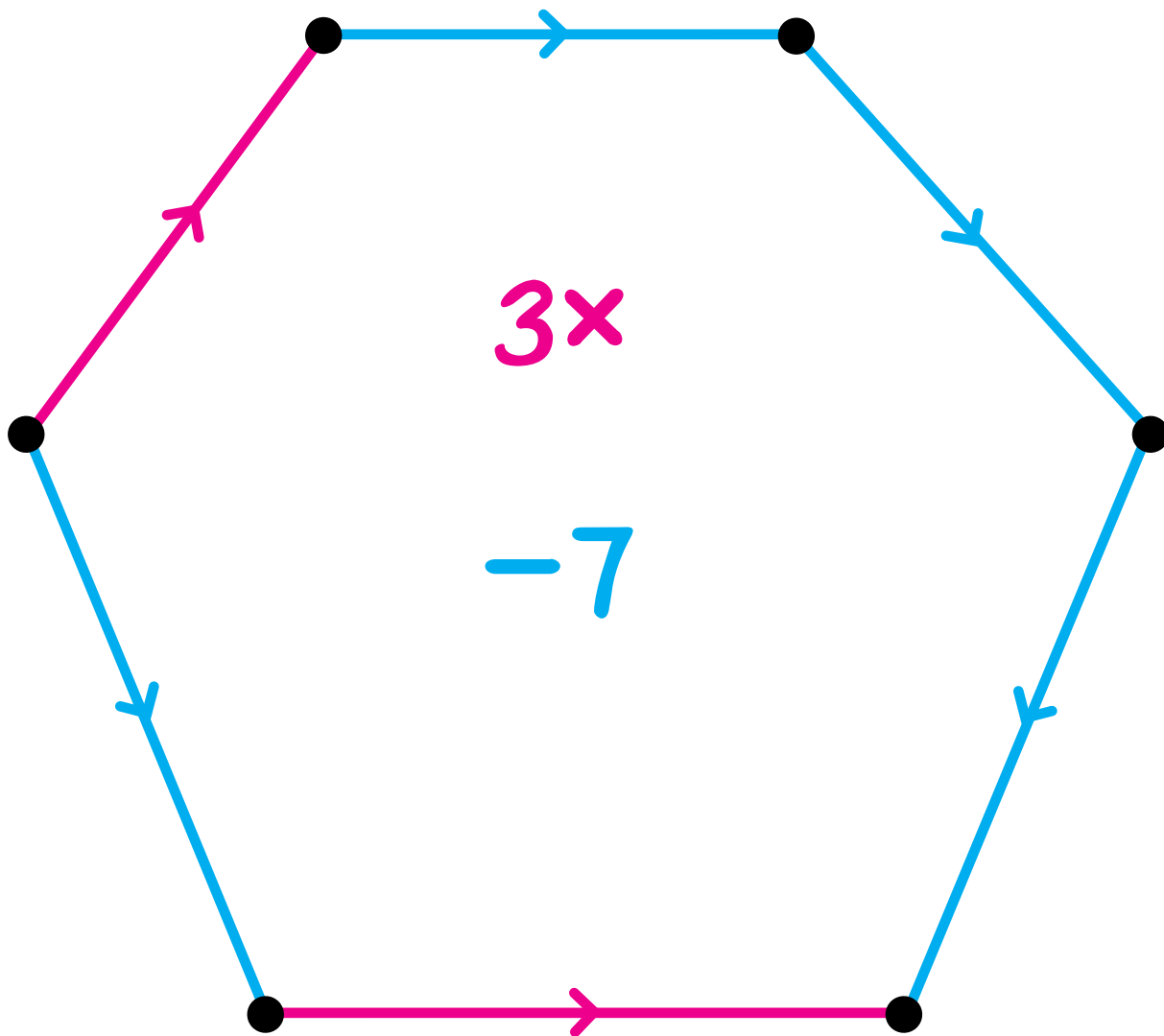
Tim could be _____ or _____.

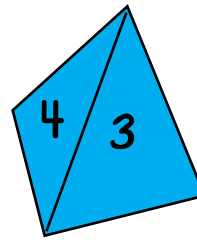
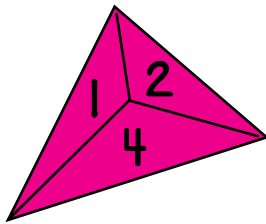
Clue 2



Who is Tim? _____

$\hat{8}$ is the only even negative number in this picture. Circle the dot for $\hat{8}$. Label all of the dots.





Reggie has two four-sided pyramids. The faces of each pyramid are the same size and shape, and are labeled:

1 2 3 4

Reggie rolls the two blocks on a table and adds the numbers on the faces touching the table (for example, $2 + 3 = 5$). List the sums Reggie could get:

____, _____, _____, _____, _____, _____, or _____.

Complete this table to show all of the possible sums with the two pyramids. One is done for you.

Red Block	4				
	3		5		
	2				
	1				
		1	2	3	4
		Blue Block			

What is the probability that the sum will be 4? _____

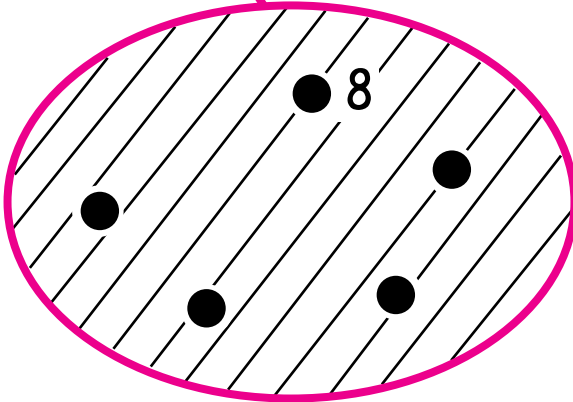
Which sum is most likely? _____

What is the probability of that sum occurring? _____

Reggie invites Angela to play this game: Roll the two pyramids and add the results. Reggie wins if the sum is even. Angela wins if the sum is odd. Is this a fair game? Explain.

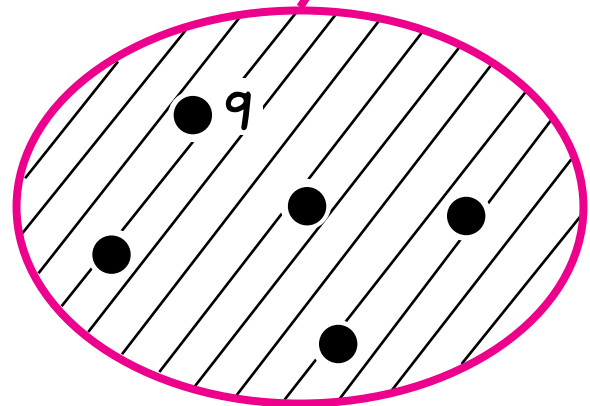
Label the dots. Fill in the blanks.

Positive divisors of Ti



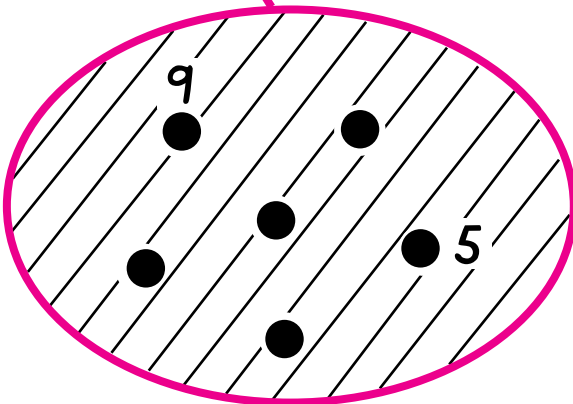
Who is Ti? _____

Positive divisors of Ta



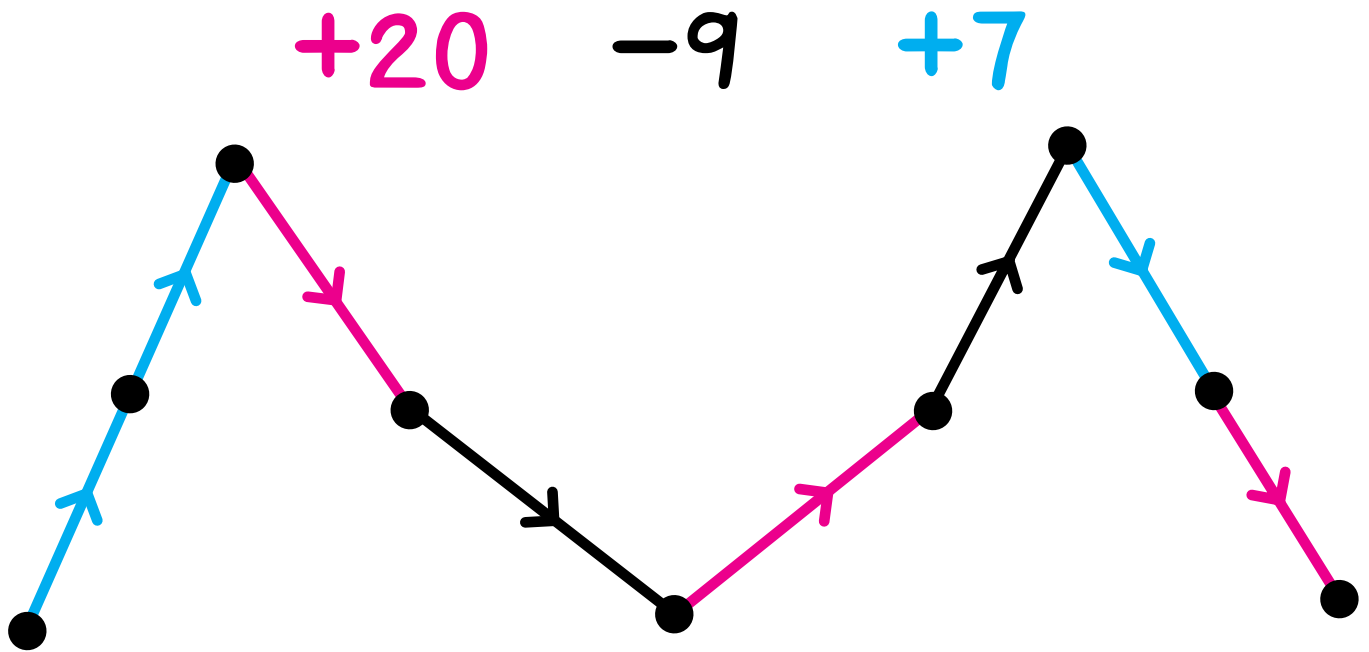
Who is Ta? _____

Positive divisors of Tu

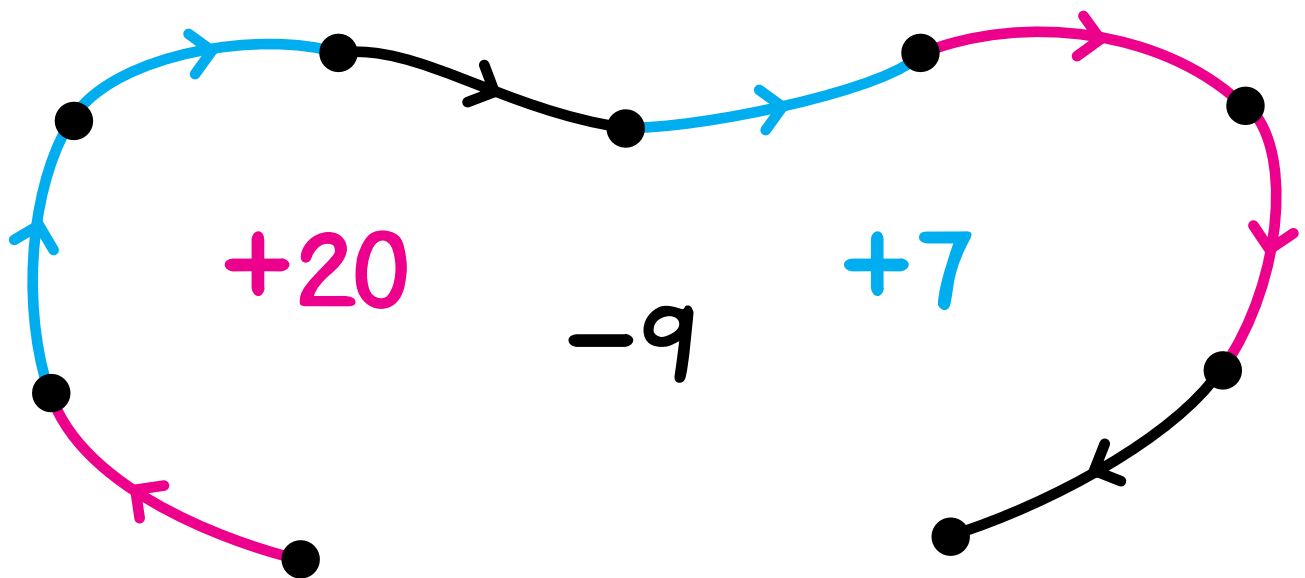


Who is Tu? _____

53 and 84 are in this arrow picture. Label their dots.

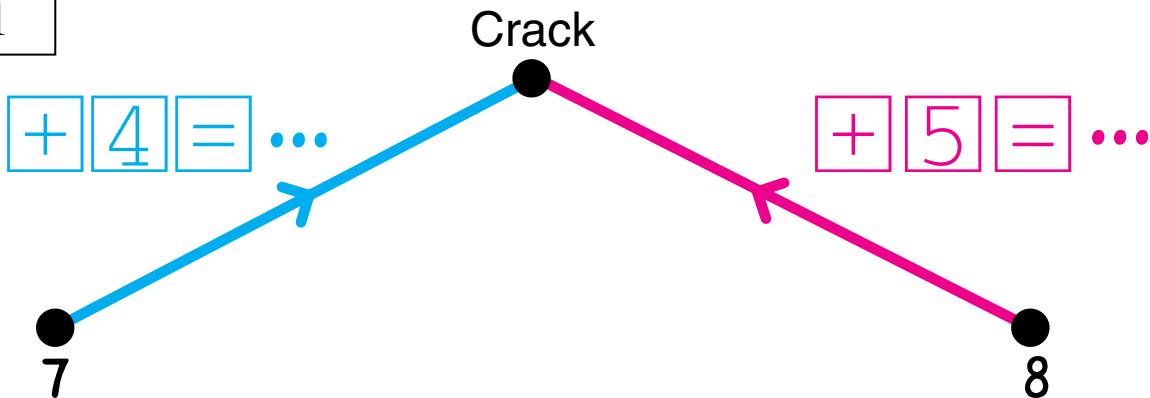


$\hat{5}$ and 13 are in this arrow picture. Label their dots.



Crack is a secret number.

Clue 1



Crack could be _____, _____, _____, _____, _____, _____, and so on.

Clue 2

Crack is a multiple of 3.

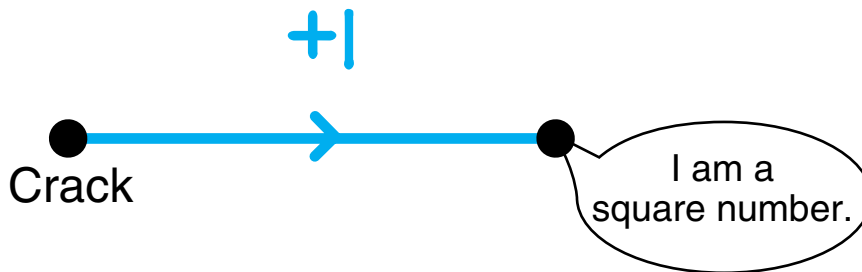
Crack could be _____, _____, _____, _____, _____, and so on.

Clue 3

Crack is between 900 and 1 100.

Crack could be _____, _____, _____, or _____.

Clue 4



Who is Crack? _____