

Name _____

Collection of Problems #2

What number is on the Minicomputer?

$$\begin{array}{|c|c|} \hline & \bullet \\ \hline \bullet & \\ \hline \end{array} = \underline{\hspace{2cm}}$$

$$\begin{array}{|c|c|} \hline \bullet & \bullet \\ \hline \bullet & \\ \hline \end{array} = \underline{\hspace{2cm}}$$

$$\begin{array}{|c|c|} \hline & \\ \hline \bullet & \\ \hline \end{array} \begin{array}{|c|c|} \hline \bullet & \\ \hline & \bullet \\ \hline \end{array} = \underline{\hspace{2cm}}$$

$$\begin{array}{|c|c|} \hline & \\ \hline \bullet & \\ \hline \end{array} \begin{array}{|c|c|} \hline \bullet & \bullet \\ \hline & \\ \hline \end{array} = \underline{\hspace{2cm}}$$

$$\begin{array}{|c|c|} \hline \bullet & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \bullet \\ \hline & \bullet \\ \hline \end{array} = \underline{\hspace{2cm}}$$

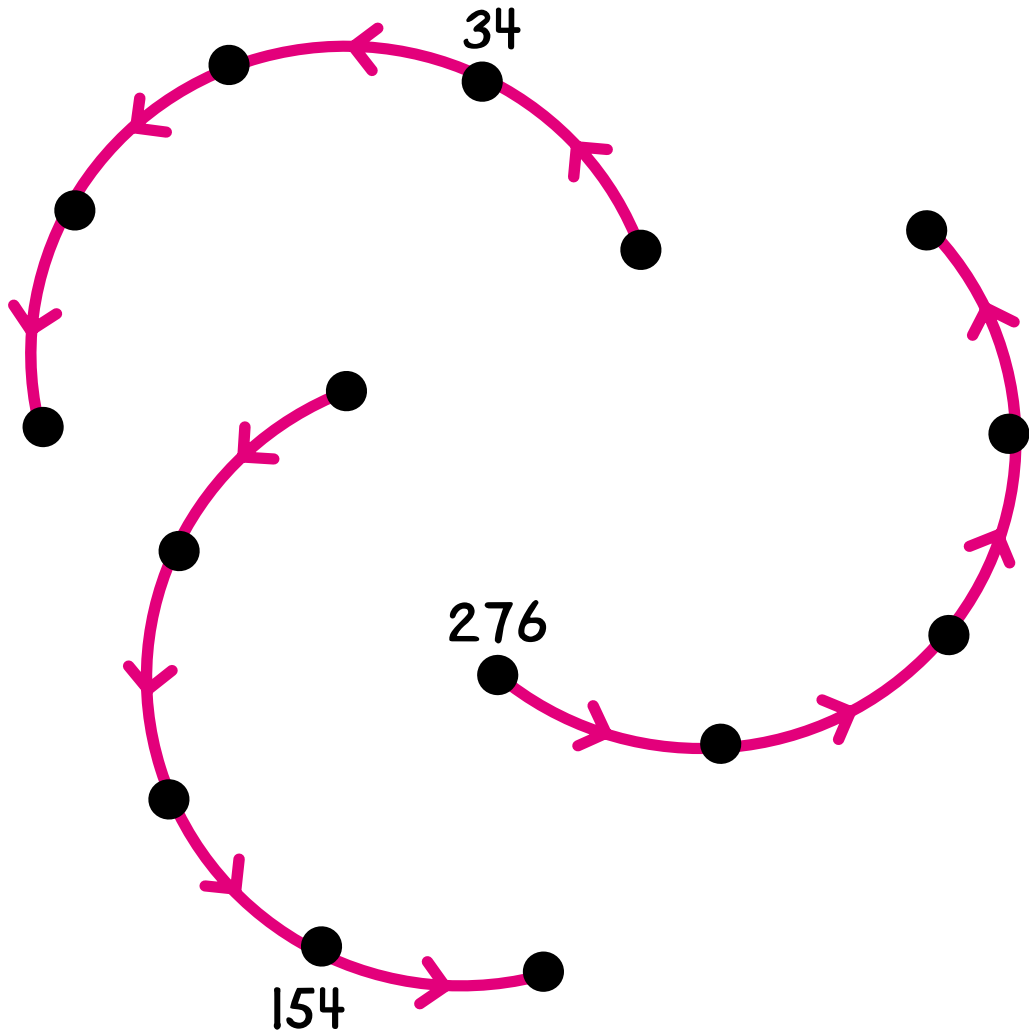
$$\begin{array}{|c|c|} \hline & \bullet \\ \hline & \bullet \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline \bullet & \\ \hline \bullet & \\ \hline \end{array} = \underline{\hspace{2cm}}$$

$$\begin{array}{|c|c|} \hline & \\ \hline \bullet & \bullet \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \bullet \\ \hline \bullet & \bullet \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = \underline{\hspace{2cm}}$$

$$\begin{array}{|c|c|} \hline & \bullet \\ \hline \bullet & \\ \hline \end{array} \begin{array}{|c|c|} \hline \bullet & \\ \hline \bullet & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \bullet \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \bullet \\ \hline \end{array} = \underline{\hspace{2cm}}$$

Label the dots.

+10



Complete.

$$\begin{array}{r} 64 \\ + 10 \\ \hline \end{array}$$

$$\begin{array}{r} 164 \\ + 10 \\ \hline \end{array}$$

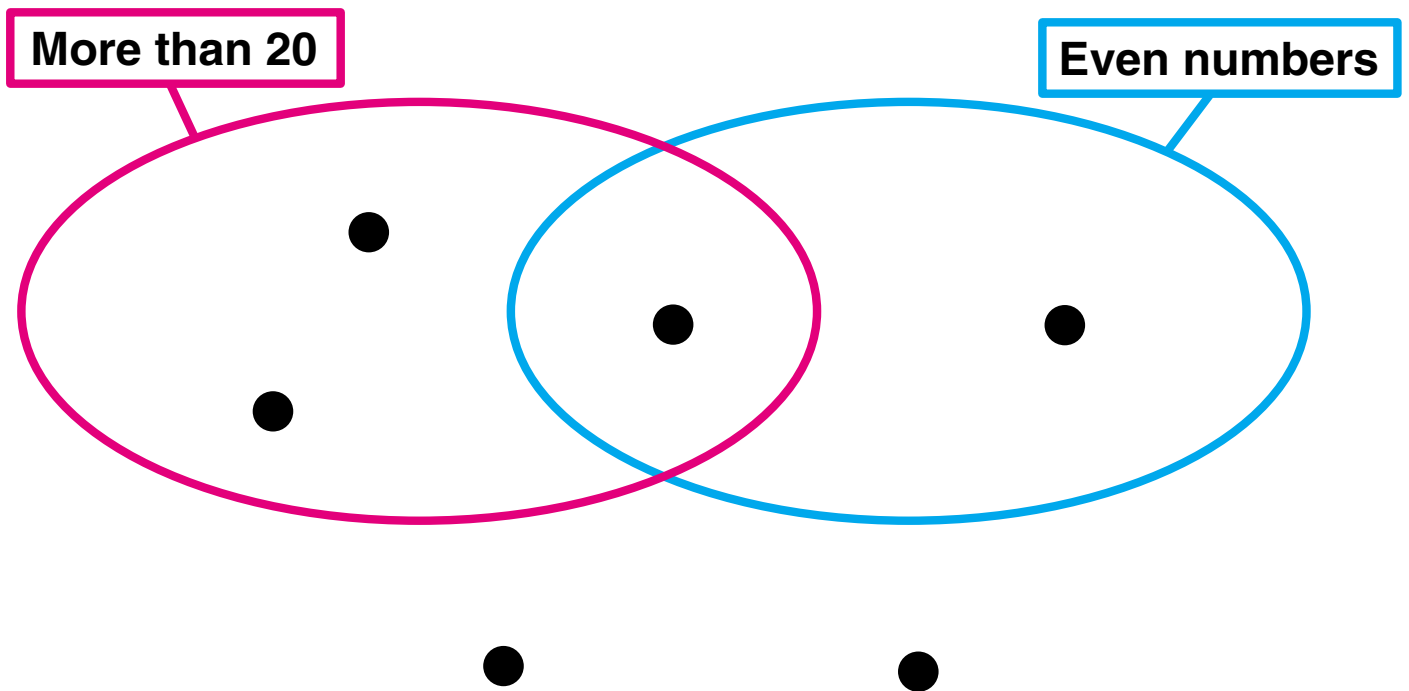
$$\begin{array}{r} 76 \\ + 10 \\ \hline \end{array}$$

$$\begin{array}{r} 316 \\ + 10 \\ \hline \end{array}$$

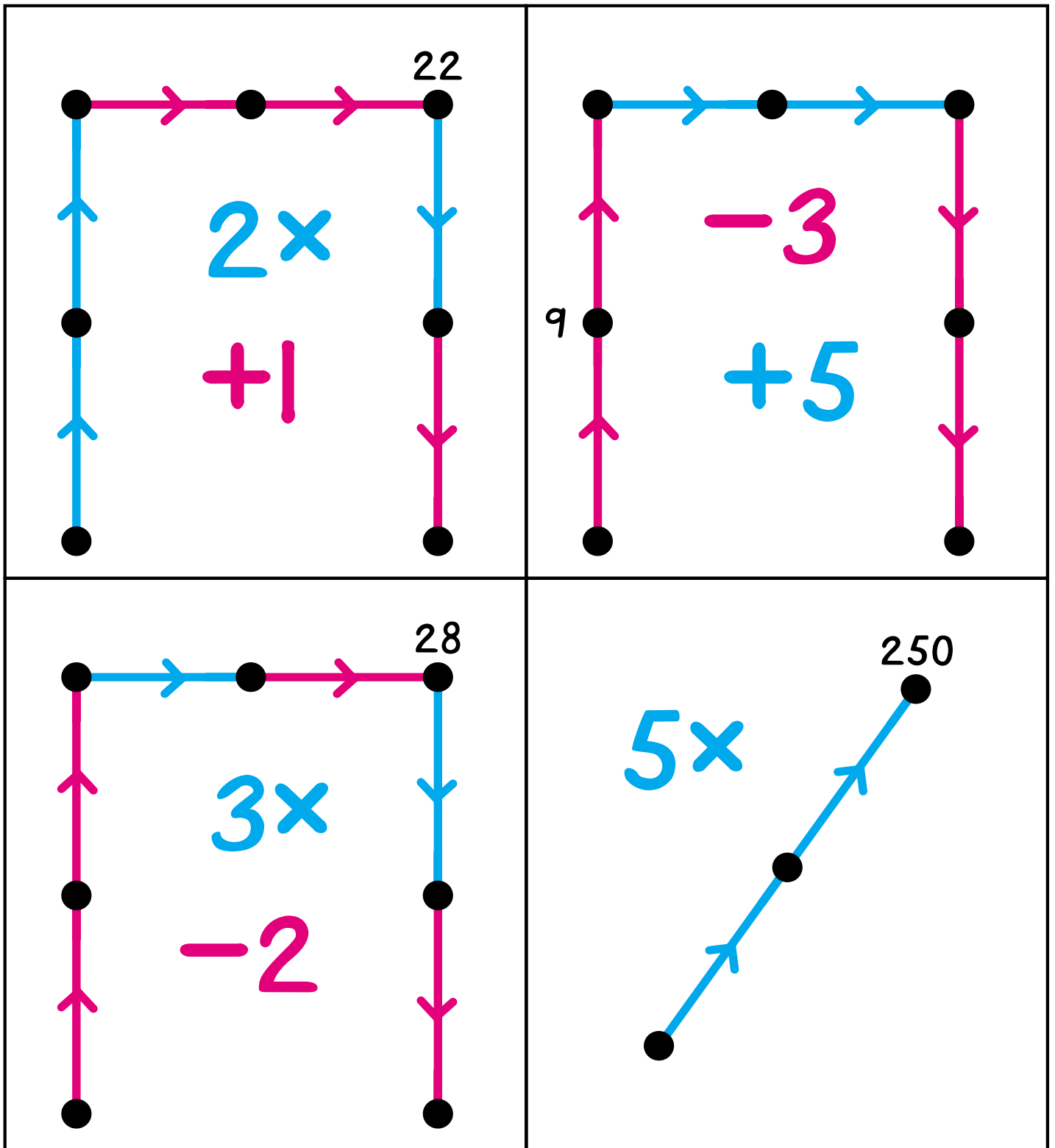
$$\begin{array}{r} 43 \\ + 10 \\ \hline \end{array}$$

$$\begin{array}{r} 343 \\ + 10 \\ \hline \end{array}$$

Label the dots. Many solutions are possible.



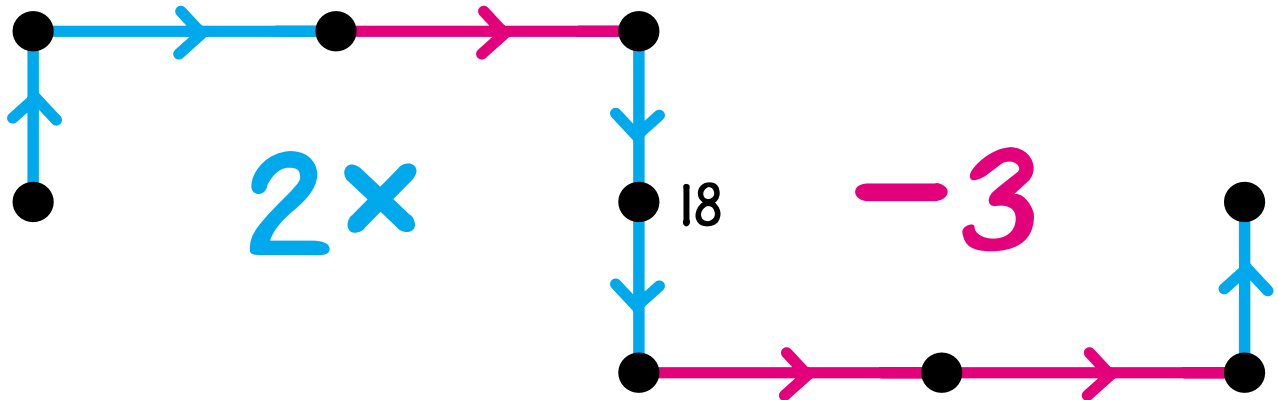
10 is in each of these pictures. Label all the dots.
 In each picture, circle the dot for 10.



Snap is a secret number.

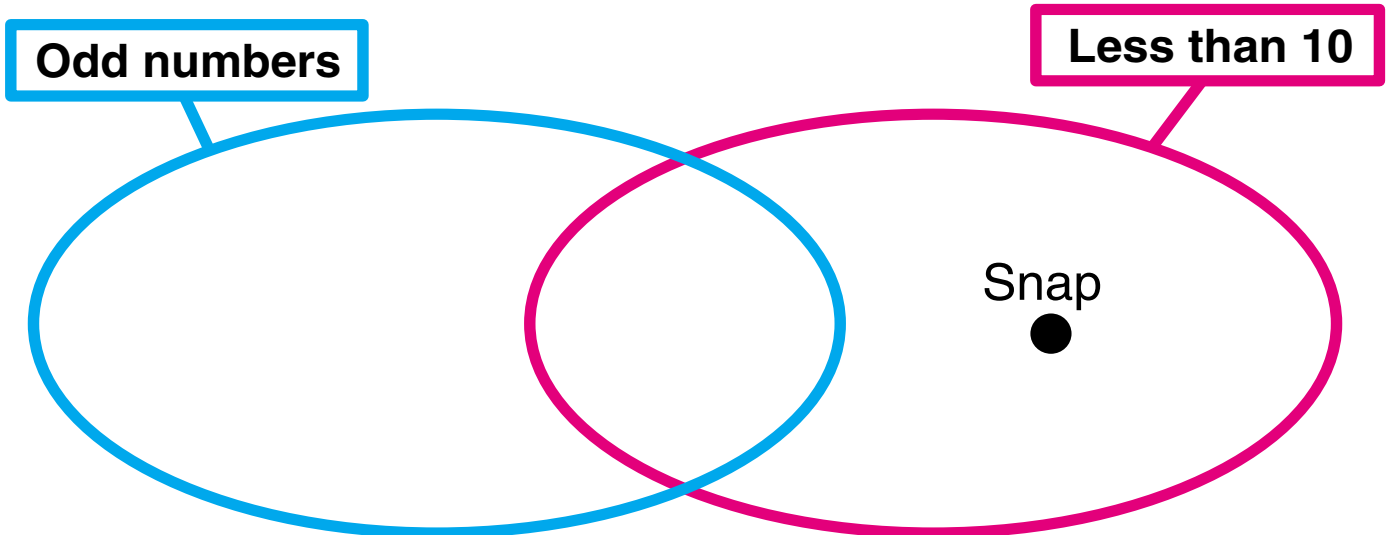
Clue 1

Snap is in this arrow picture. Label the dots.



Clue 2

Snap is in this string picture.



Who is Snap? _____

Complete.

Add.

$$\begin{array}{r} 256 \\ + 761 \\ \hline \end{array}$$

$137 + 646 = \underline{\hspace{2cm}}$

$513 + 298 = \underline{\hspace{2cm}}$

Subtract.

$$\begin{array}{r} 47 \\ - 16 \\ \hline \end{array}$$

$357 - 147 = \underline{\hspace{2cm}}$

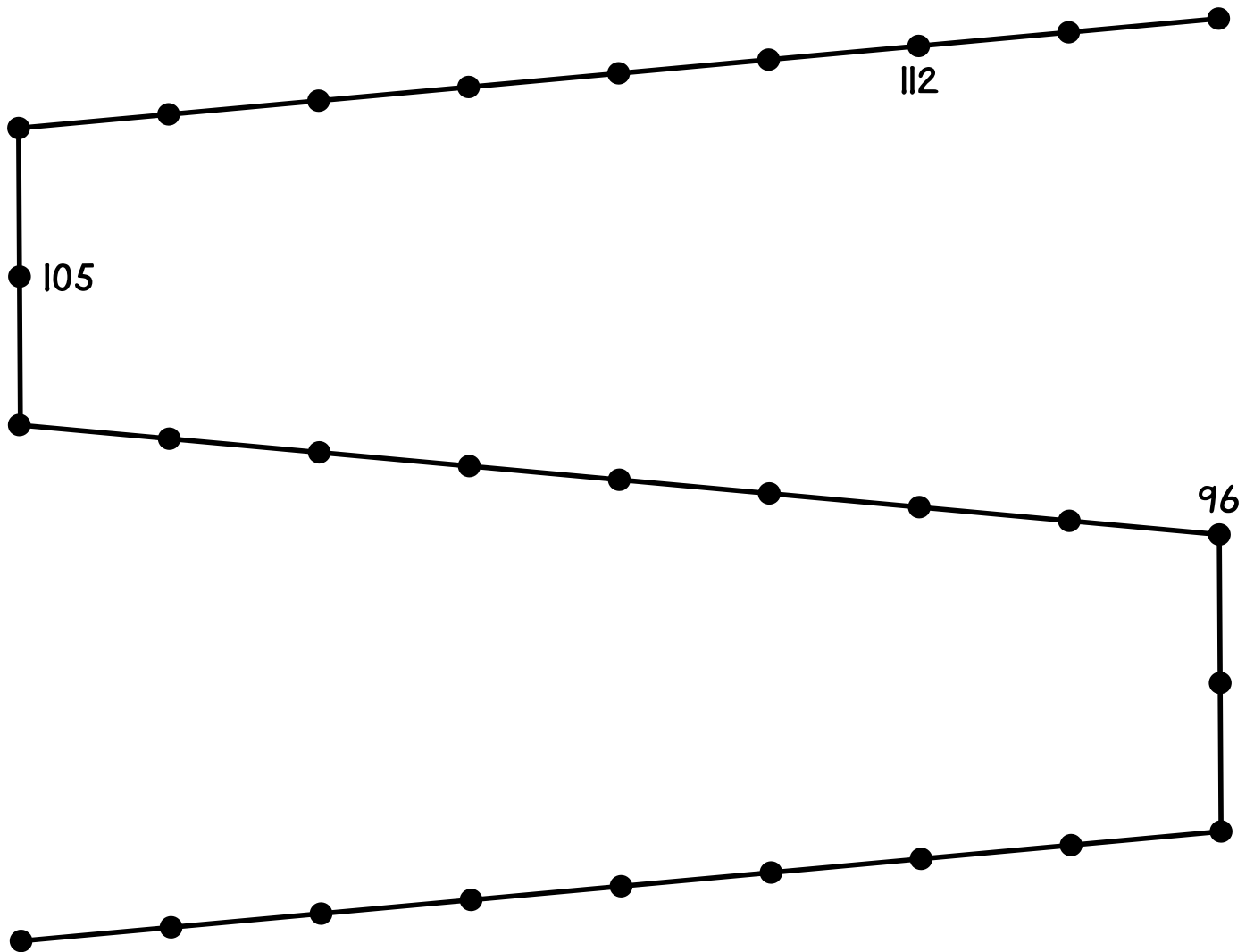
$$\begin{array}{r} 256 \\ - 182 \\ \hline \end{array}$$

$459 - 52 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 5206 \\ - 148 \\ \hline \end{array}$$

$574 - 318 = \underline{\hspace{2cm}}$

Label the dots on this zigzag number line.

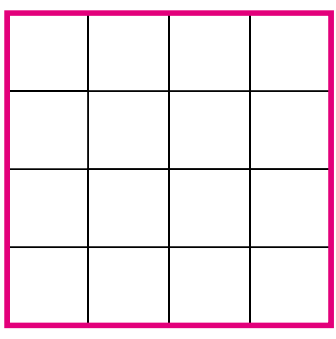
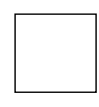
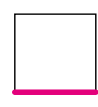
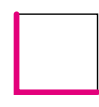


96 is a multiple of 3; 96 is also a multiple of 4.

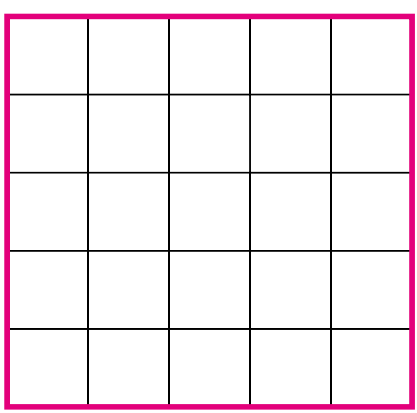
List all of the multiples of 3 between 85 and 115. _____

List all of the multiples of 4 between 85 and 115. _____

How many?

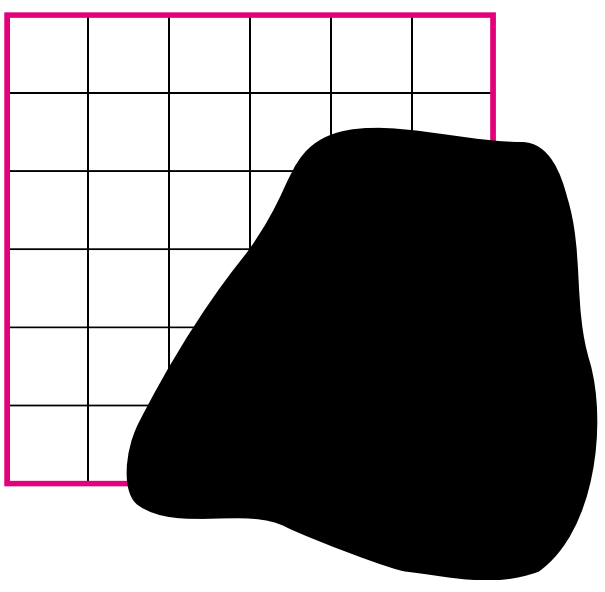


4 by 4
square



5 by 5
square

This shape is a square, but part of it is hidden.



6 by 6
square

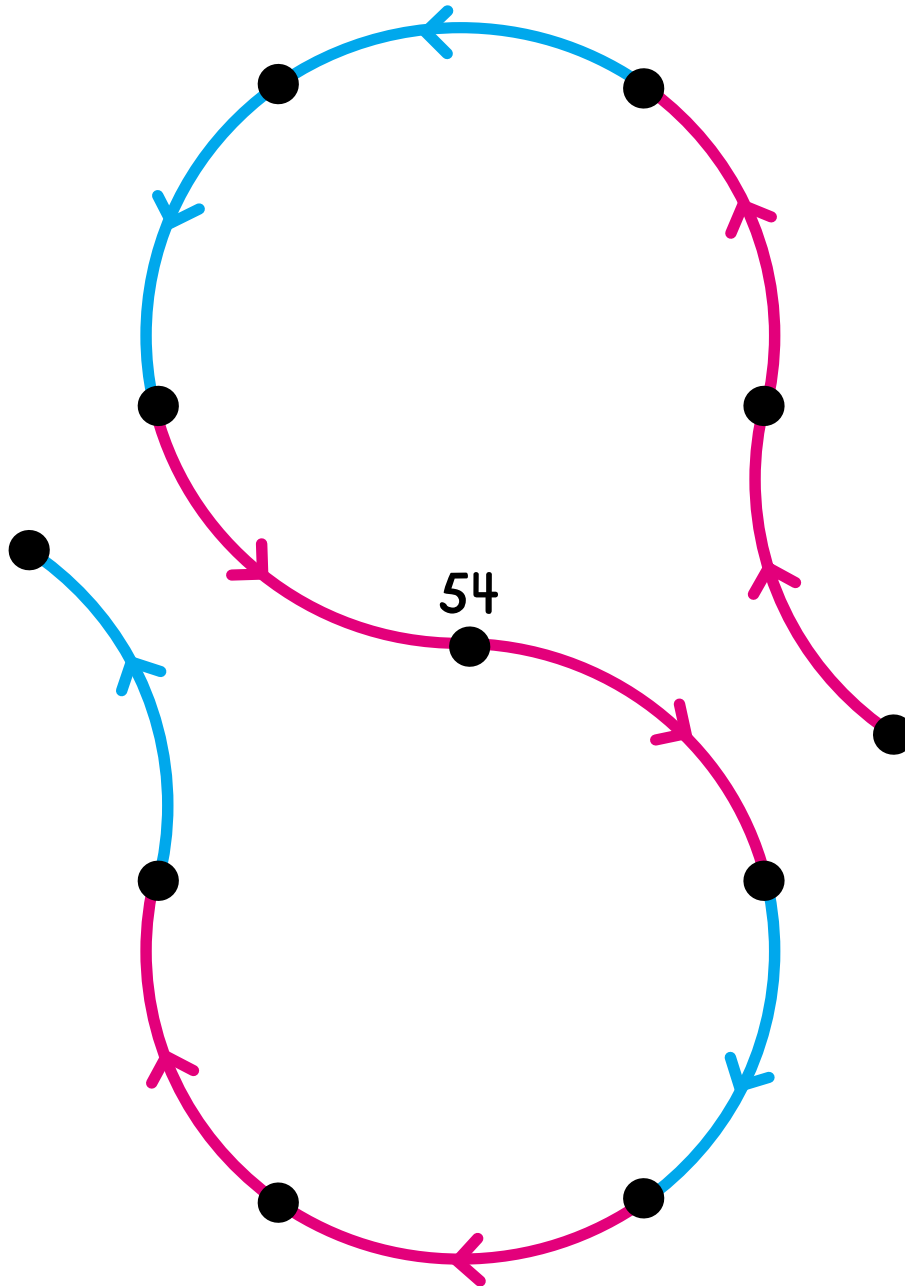
9

Label the dots. Draw as many -7 arrows as possible in this picture.

-10

$+3$

-7



Write at least five more number sentences about 60.
Some examples are given here.

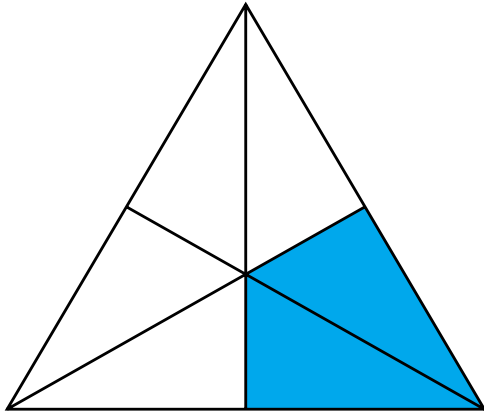
$$\frac{1}{2} \times 120 = 60$$

60

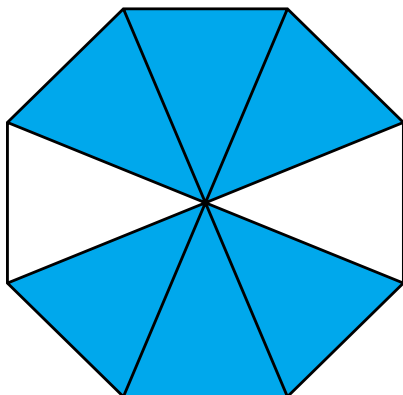
$$(2 \times 25) + (2 \times 5) = 60$$

$$59 + 1 = 60$$

What fractional part of each shape is colored blue?







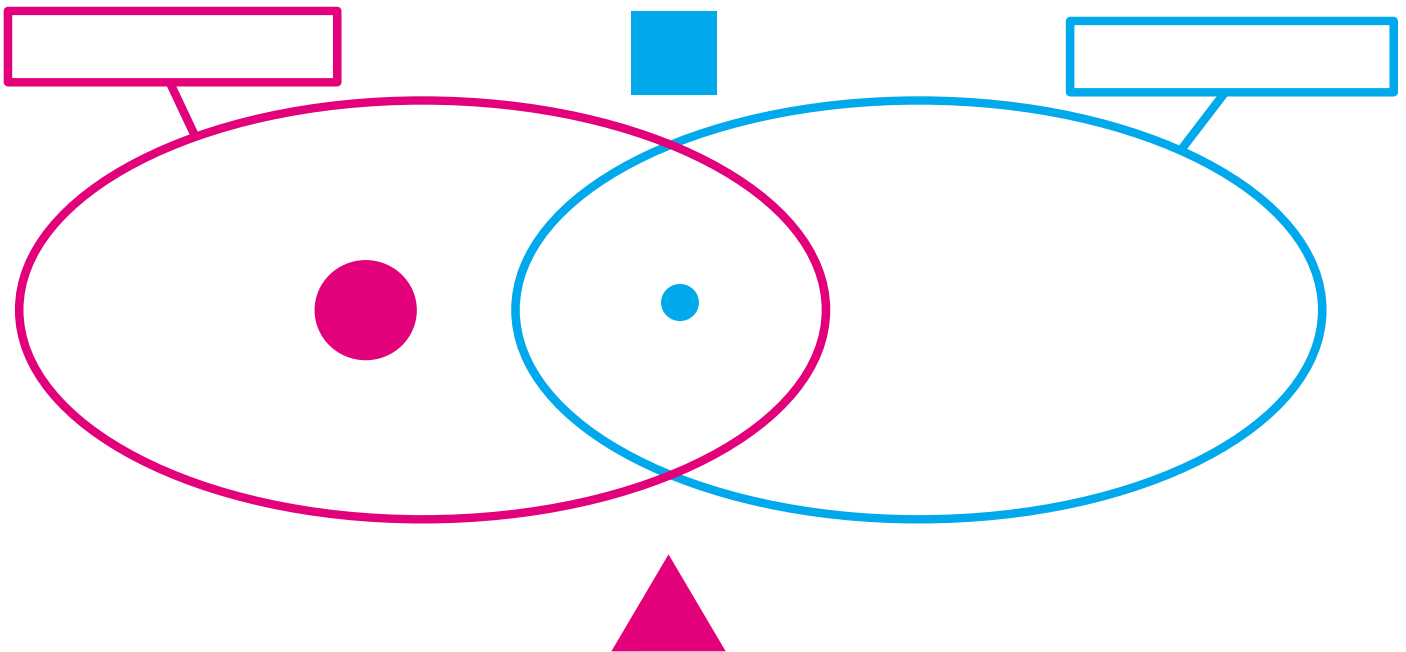
The red label is one of these:



RED	YELLOW	GREEN	BLUE
NOT RED	NOT YELLOW	NOT GREEN	NOT BLUE
○	△	□	BIG
○	△	□	LITTLE

The blue label is one of these:

RED	YELLOW	GREEN	BLUE
NOT RED	NOT YELLOW	NOT GREEN	NOT BLUE
○	△	□	BIG
○	△	□	LITTLE

Label the strings.



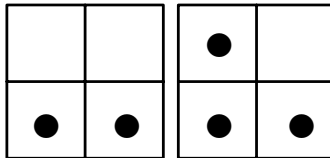
	Donuts: 3 for \$1.00
	Juice: 50¢

1. How many donuts can you buy for \$4? _____
2. How many juices can you buy for \$2? _____
3. Jana has 6 dimes, 2 nickels, and 3 quarters. How many (most) donuts can she buy? _____
4. Luke buys a donut and a juice for himself and two friends. How much does he spend? _____
5. Cheryl spends \$3. What does she buy?
(Give at least two possible answers.)

Coli is a secret number.

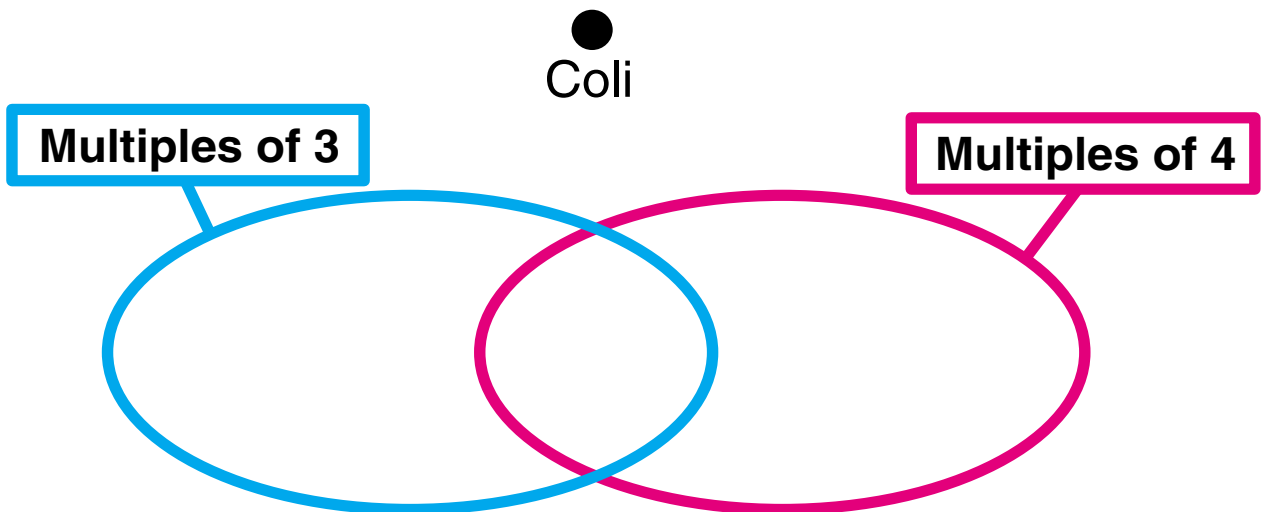
Clue 1

Coli can be shown on this Minicomputer by taking off exactly one checker.



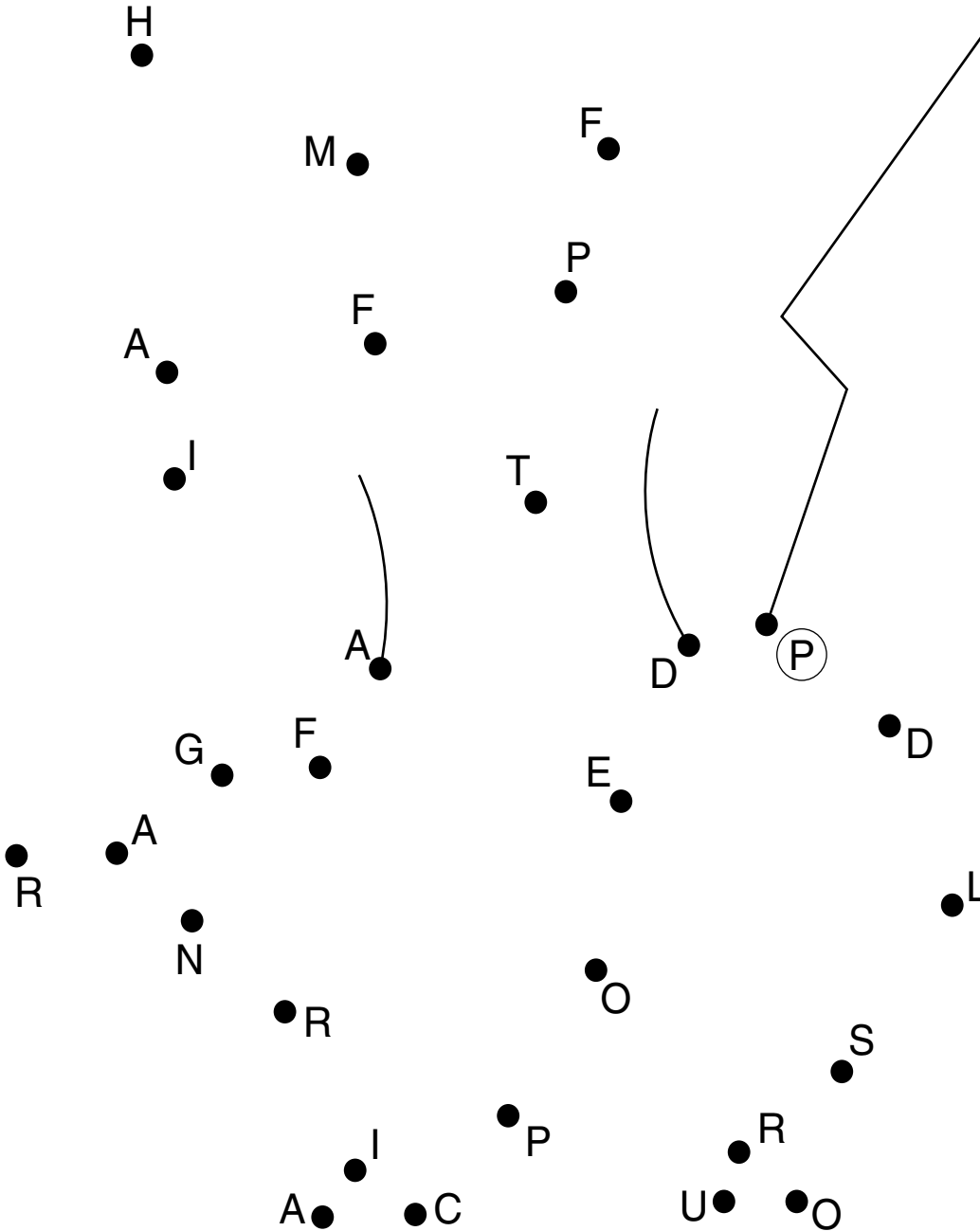
Coli could be _____, _____, _____, _____, or _____.

Clue 2



Who is Coli? _____

Draw a zigzag starting at the dot marked (P).
 Using the list of lengths for the segments, draw
 the first “zig” by finding the dot 7.2 cm from (P).
 Draw the next “zag” by finding the dot 1.0 cm
 away, and so on. Write the letters for each dot
 you find in order at the bottom of the page.



- 7.2 cm
- 1.0 cm
- 1.0 cm
- 7.6 cm
- 4.3 cm
- 1.6 cm
- 3.4 cm
- 2.4 cm
- 1.0 cm
- 1.3 cm
- 4.4 cm
- 2.1 cm
- 4.0 cm
- 5.6 cm
- 7.0 cm
- 3.0 cm
- 4.2 cm
- 10.7 cm

P _____

Give each blue arrow one of these labels.

-10

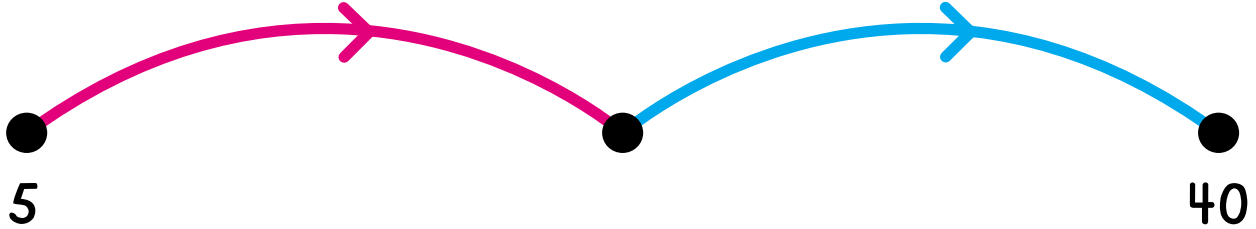
$+20$

$+38$

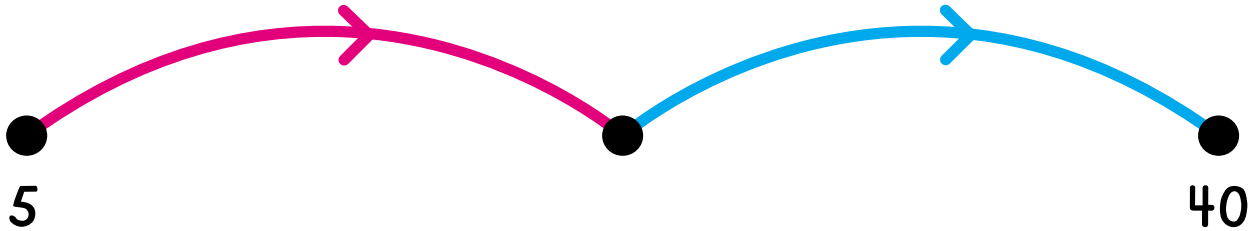
$4\times$

$2\times$

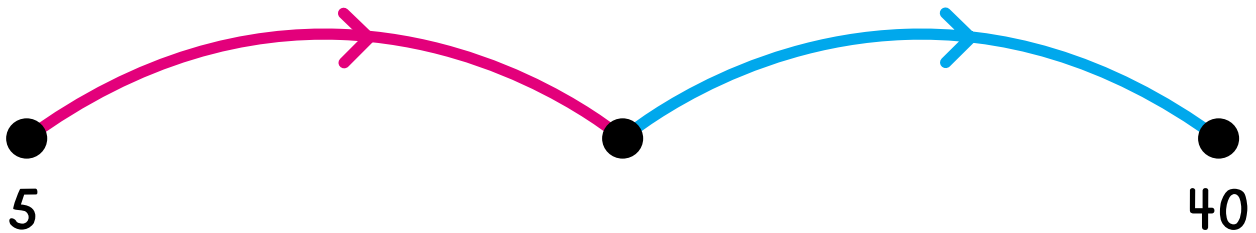
$2\times$



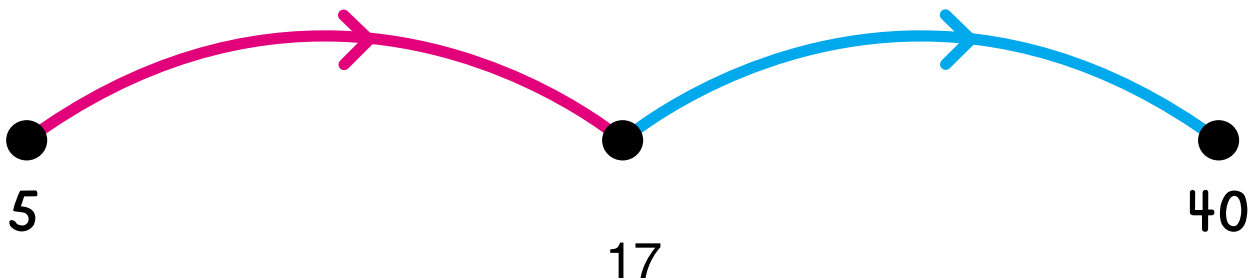
$+45$



$4\times$



-3



Use the true subtraction statement in the box to help complete the other subtraction problems.

$$57 - 19 = 38$$

$67 - 29 = \underline{\hspace{2cm}}$

$58 - 20 = \underline{\hspace{2cm}}$

$157 - 19 = \underline{\hspace{2cm}}$

$50 - 12 = \underline{\hspace{2cm}}$

$47 - 19 = \underline{\hspace{2cm}}$

$57 - 24 = \underline{\hspace{2cm}}$

$47 - 9 = \underline{\hspace{2cm}}$

$57 - 14 = \underline{\hspace{2cm}}$

Sports Shorts

Solve each problem. Show your work.

1. In a basketball game, Patton School beat Lauton School 63-57. Patton's best two players are Angela and Marcel. In this game, Angela scored 29 points and Marcel scored 17 points. How many of Patton's points were not scored by Angela or Marcel?

_____ points

2. At the end of the first half of a football game, the score was Patton 21, Lauton 7. However, in the second half, Lauton scored 24 points while Patton scored only 18 points.

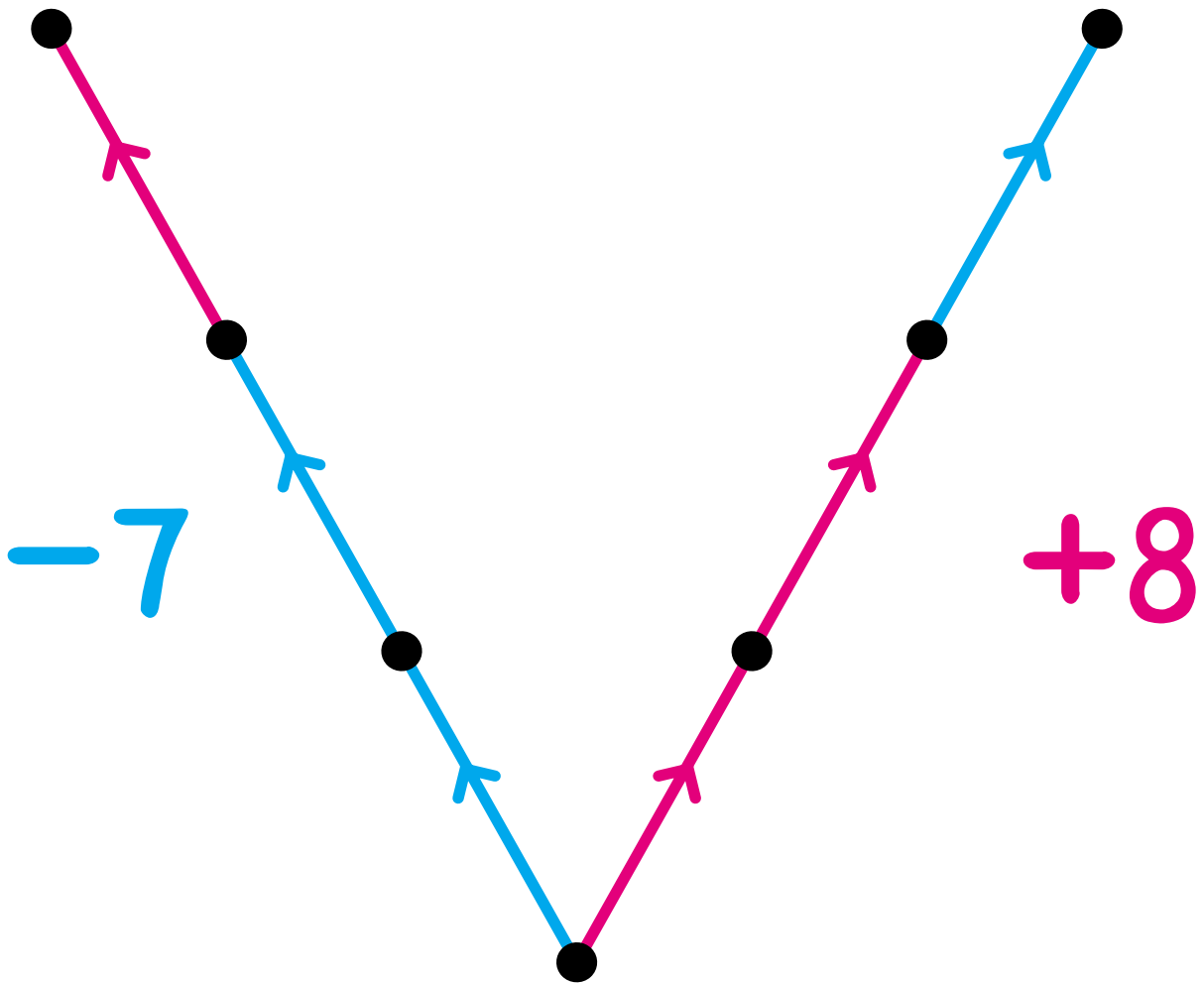
Which team won the game? _____

What was the final score? _____

How many more points did the winning team score than the losing team? _____ points

20 is the greatest number in this picture. Where is 20?
Label its dot.

Label the other dots.



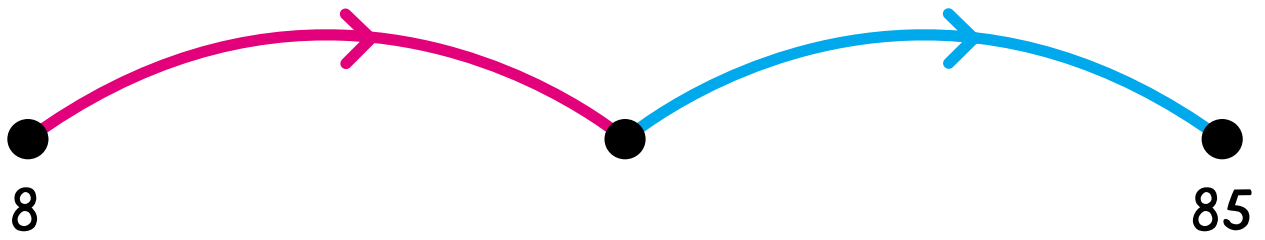
Circle the dot for the least number in this picture.

20



The air distance from Chicago to Denver is 1 450 km.
 Match the pairs of cities with the distance between them.
 One is done for you.

Chicago – Denver	425 km
Chicago – Minneapolis	580 km
Chicago – Boston	1 380 km
Chicago – St. Louis	1 450 km
Chicago – Houston	1 540 km
Chicago – San Francisco	2 800 km
Chicago – Seattle	2 970 km



Pair the tags.

$8 \times$

-13

$+9$

$+100$

$85 \times$

$5 \times$

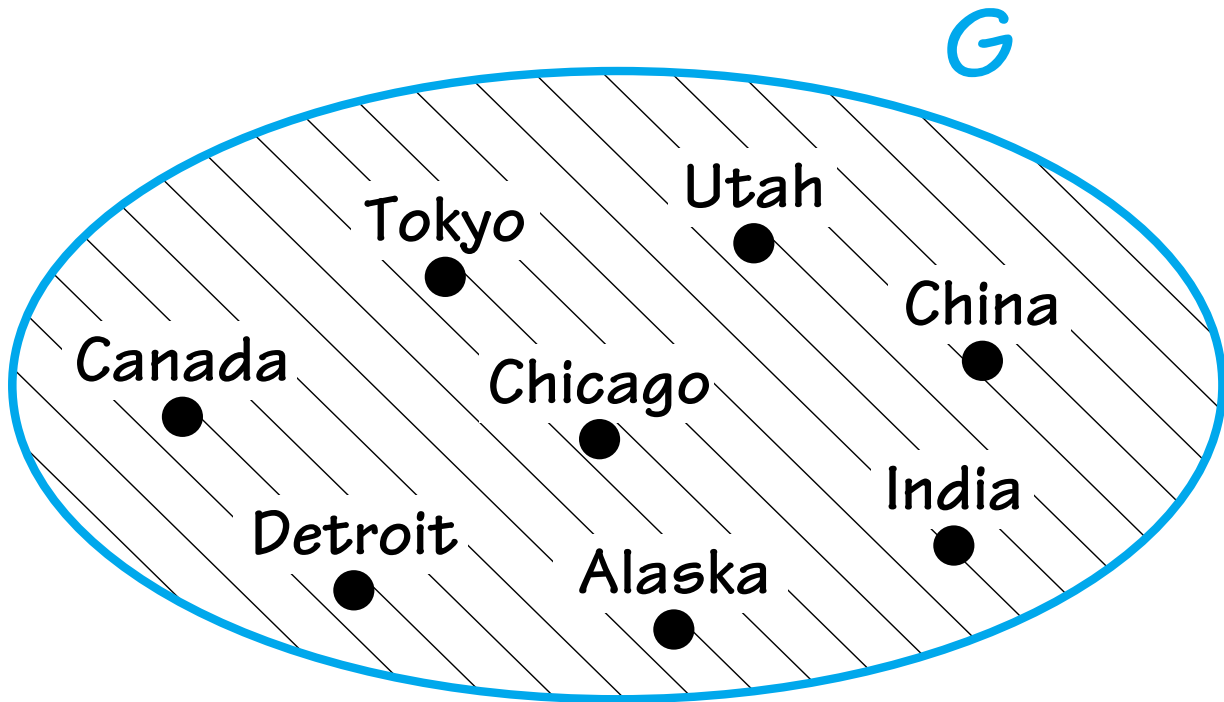
-23

$\div 8$

$+21$

$+90$

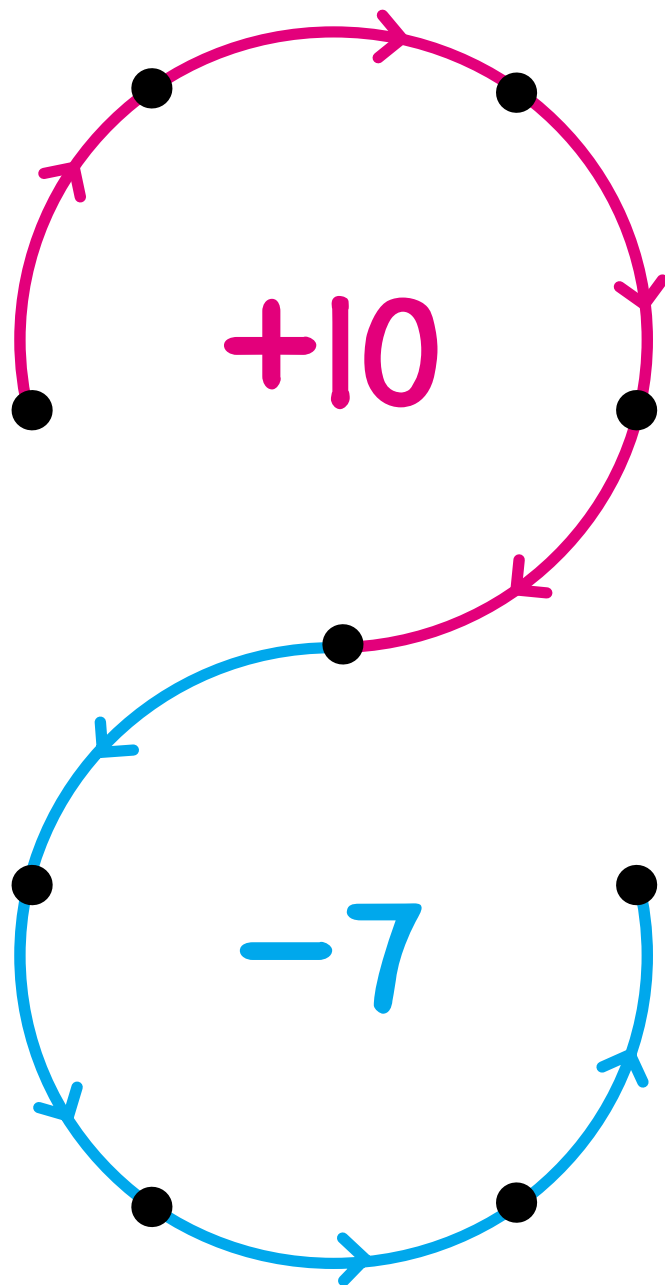
G is a set with exactly eight members.



These are some statements about G. Circle **T** if the statement is true; circle **F** if it is false.

- | | | |
|---|---|-----------------------------------------------|
| T | F | 1. Exactly three members of G are countries. |
| T | F | 2. At least one member of G is a city. |
| T | F | 3. At most one member of G is a city. |
| T | F | 4. No member of G is a state. |
| T | F | 5. At most five members of G are countries. |
| T | F | 6. Each member of G is a city or state. |
| T | F | 7. At least four members of G are not cities. |
| T | F | 8. Every city in G is in the United States. |

32 and 35 are in this arrow picture. Locate their dots and then label all of the dots.

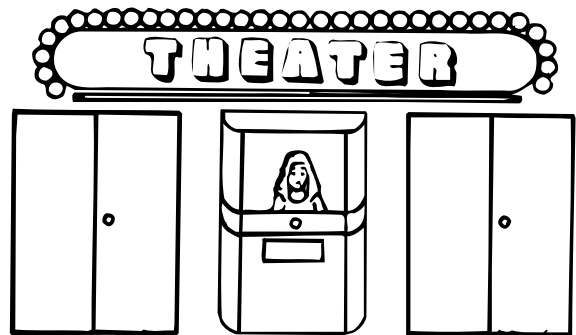


Solve each problem. Show your work.

Jenny and Pat are going to a three-hour movie. It takes them half an hour to walk to the theater. The movie starts at 2:10 p.m.

What time should they leave home? _____

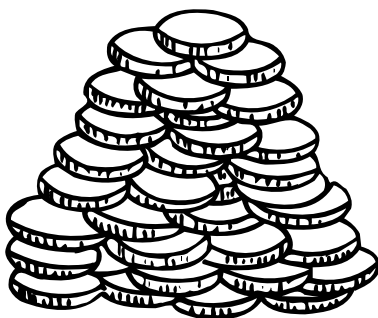
If they go directly home after the movie, what time will they be back home? _____



Together Bob and Sarah have 36 pennies. Bob has 6 more pennies than Sarah.

How many pennies does Bob have? _____

How many pennies does Sarah have? _____



Build an arrow road from 100 to 1 000 using $2x$ and $+5$ arrows.
Use as few arrows as possible.

$2x$
 $+5$

1 000
●

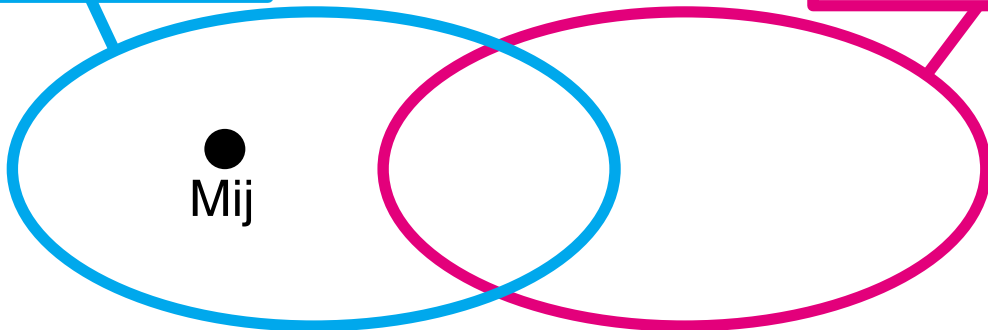
●
100

Mij is a secret number.

Clue 1

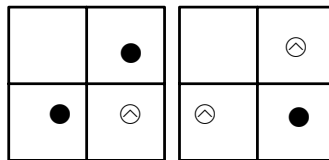
Multiples of 3

More than 50



Clue 2

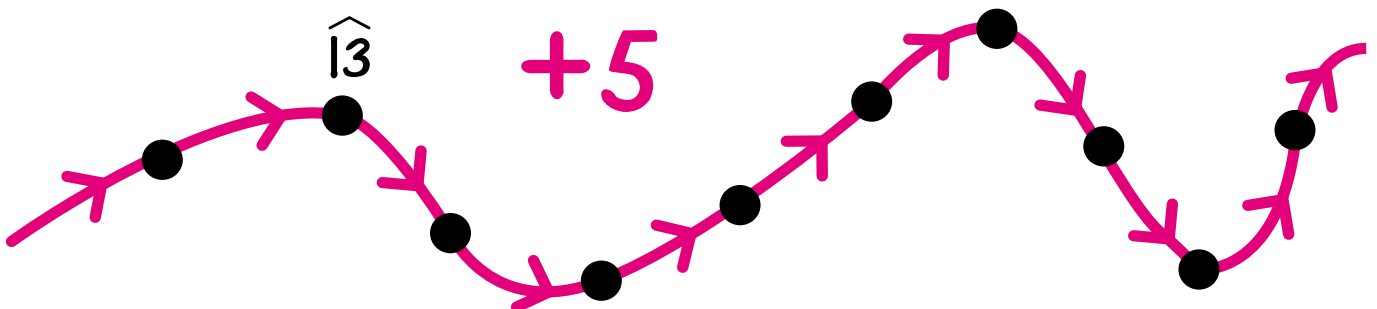
Mij can be shown on this Minicomputer by removing exactly two checkers.



Mij could be _____, _____, _____, _____, _____, or _____.

Clue 3

Mij is on this arrow road.



Who is Mij? _____

Put these numbers in the string picture.

$82 + 80$

127

7×9

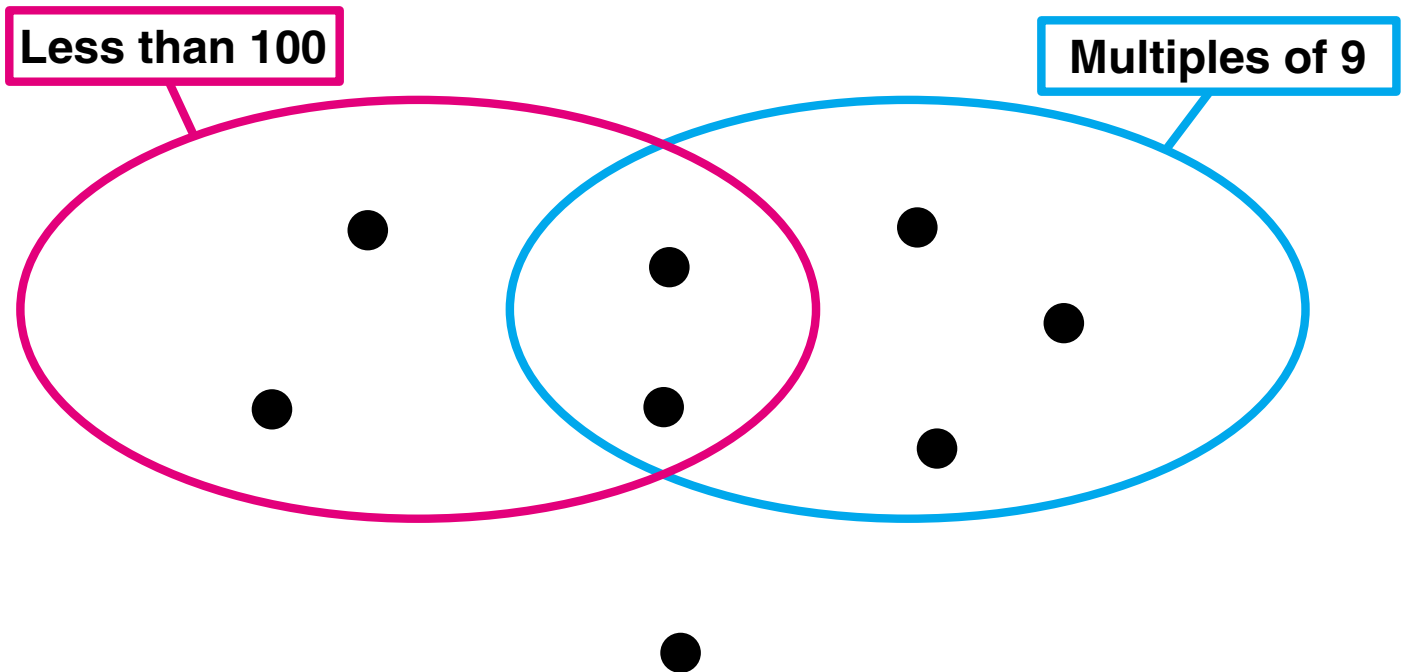
9999

$72 \div 9$

$\hat{1}9$

3×36

$162 \div 18$

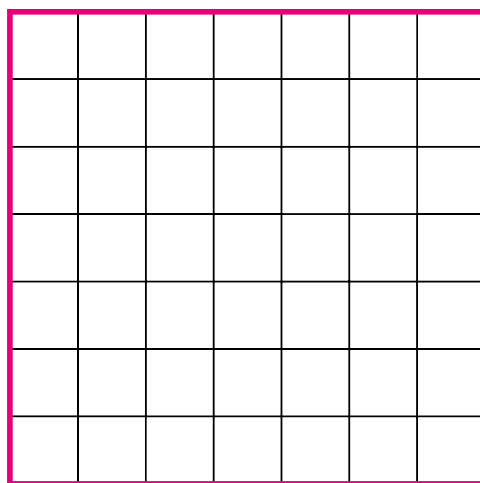





Ask your teacher to check your answers on page 9.
Use correct answers to fill in the boxes in this table.

Kind of square:	4 by 4	5 by 5	6 by 6	7 by 7	10 by 10	20 by 20
						
Number of each:						
						
						

Do you see a pattern? _____ Predict the number of each kind of piece for a 7 by 7 square. Write your predictions in the table above.

Check your prediction using this 7 by 7 square.



How many  ? _____;  ? _____;  ? _____

Was your prediction correct? _____

Use the pattern to predict the number of each kind of piece for a 10 by 10 square and a 20 by 20 square. Write your predictions in the table above.

Build an arrow road from 0 to 463 using $10\times$ and $+1$ arrows.
Use fewer than 20 arrows.

$10\times$
 $+1$

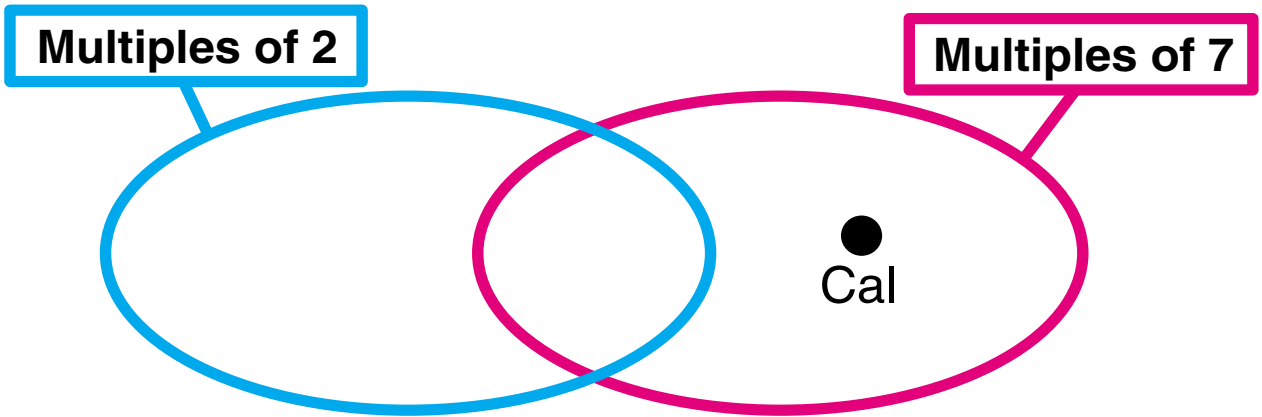
0 ●

●
463

Cal and Val are secret whole numbers.

Clue 1

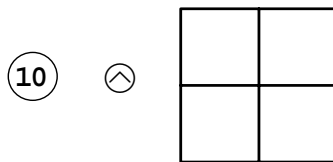
Cal is less than 100 and is in this string picture.



Cal could be _____, _____, _____, _____, _____, _____, or _____.

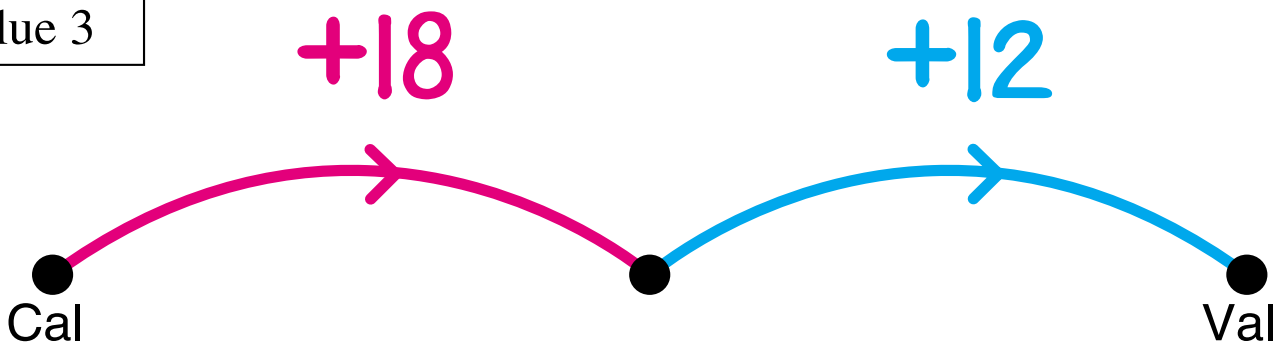
Clue 2

Val is greater than 35 and can be put on this Minicomputer with exactly these two checkers.



Val could be _____, _____, _____, _____, _____, _____, or _____.

Clue 3



Who is Cal? _____ Who is Val? _____

20

35

37

59

91

99

252

$\widehat{29}$

$\widehat{12}$

$\widehat{8}$

A name for each of the above numbers can be written following these rules:

- Use each of these digits exactly once: 4, 7, 9
- Use any of these symbols as often as you wish: +, −, x, (,)

Write names for all of the numbers above. One is done for you.

$20 = 9 + (4 + 7)$
