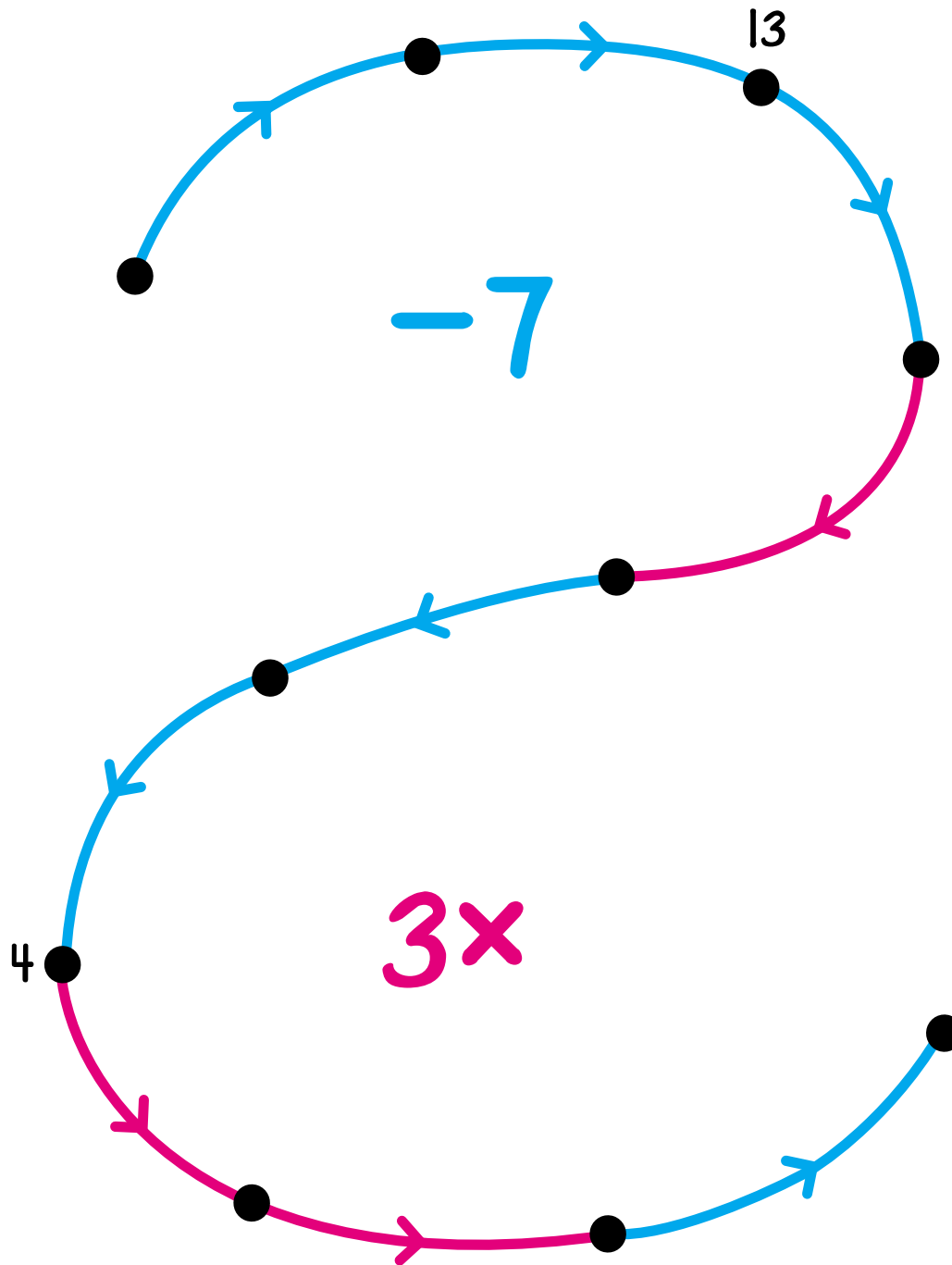


Name _____

Set
of
Problems #4

Label the dots.



What is the least odd number in this arrow picture? _____

What is the greatest odd number in this arrow picture? _____

Put these numbers in the string picture.

6

8

12

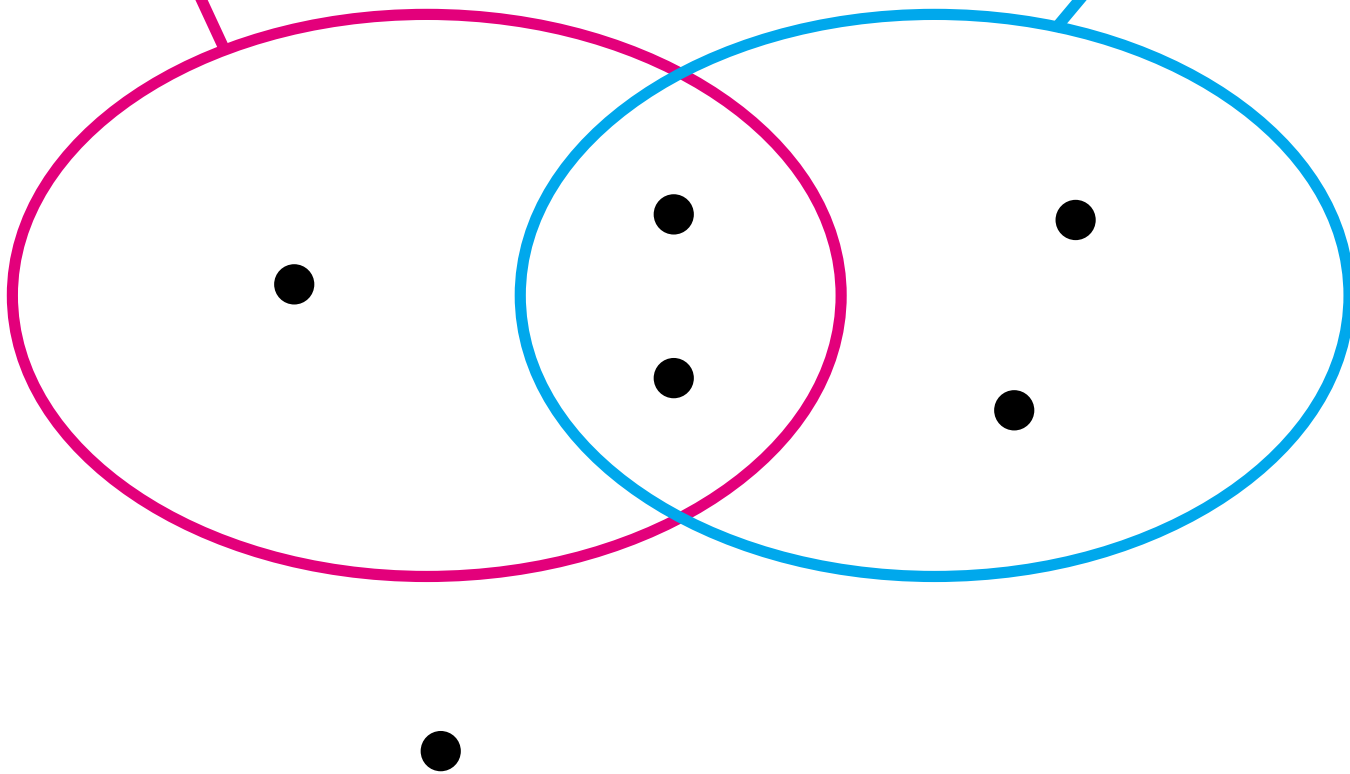
14

16

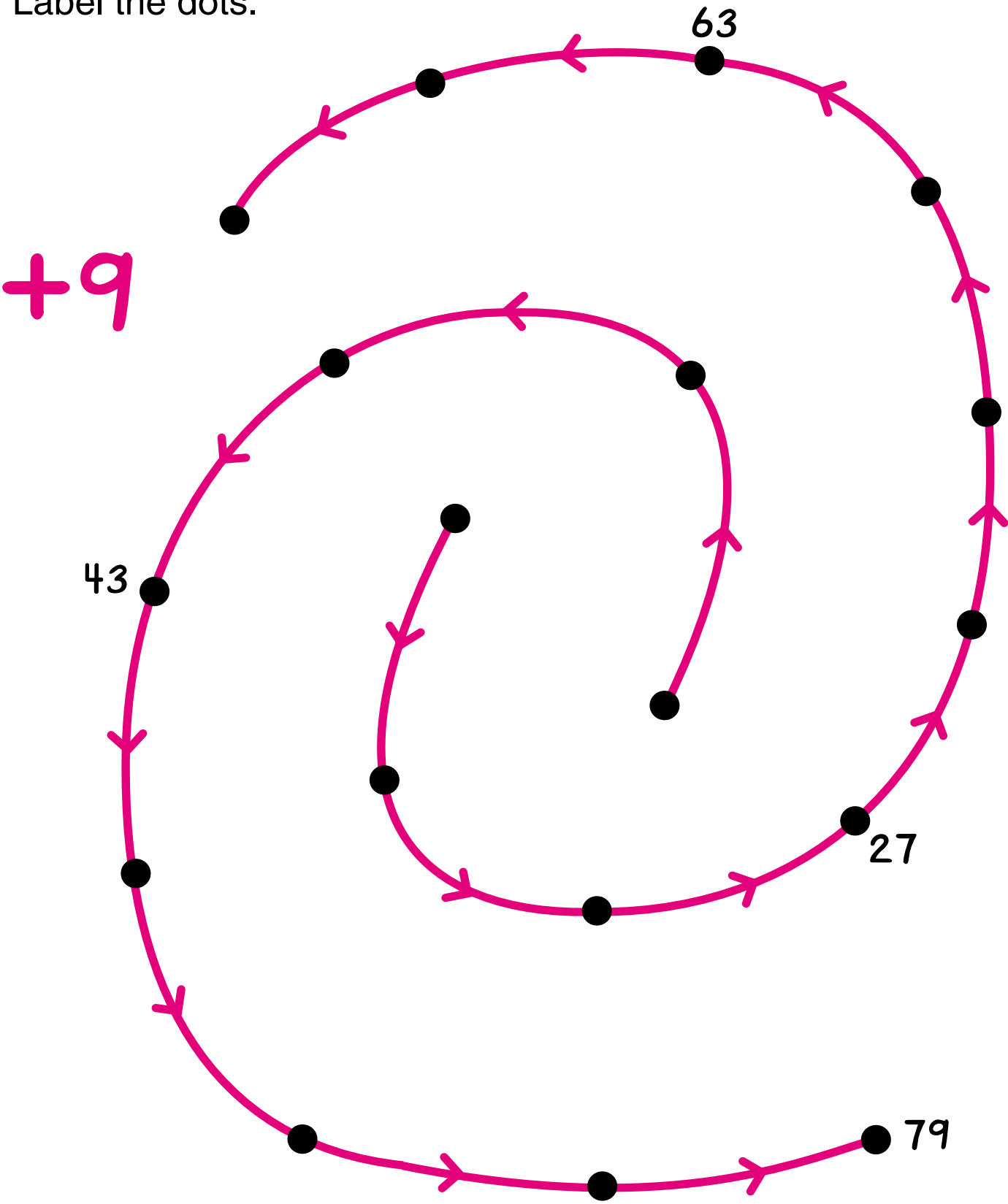
28

Positive divisors of 24

Multiples of 4



Label the dots.



Connect the dots. Draw a zigzag starting at (D). The first two segments are drawn for you. The first is 4.0 cm long. The second is 3.1 cm long. Use the rest of this list of lengths in order to complete the zigzag.

✓ 4.0 cm

✓ 3.1 cm

2.8 cm

9.6 cm

3.1 cm

6.8 cm

2.7 cm

2.0 cm

8.9 cm

The zigzag forms a picture.
The letters form a message.

The zigzag path is defined by the following points and segments:

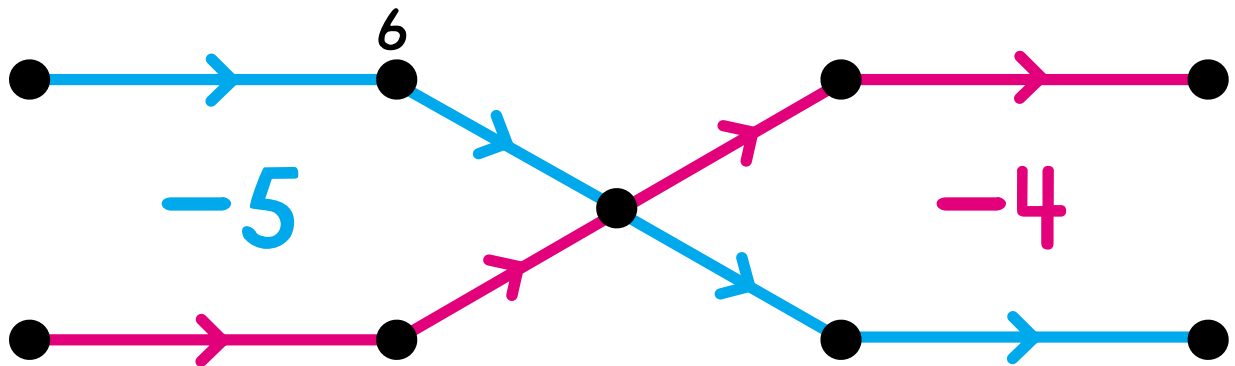
- Start at point **D**.
- Segment 1: **D** to **A** (4.0 cm).
- Segment 2: **A** to **N** (3.1 cm).
- Segment 3: **N** to **L** (2.8 cm).
- Segment 4: **L** to **T** (9.6 cm).
- Segment 5: **T** to **E** (3.1 cm).
- Segment 6: **E** to **D** (6.8 cm).
- Segment 7: **D** to **S** (2.7 cm).
- Segment 8: **S** to **M** (2.0 cm).
- Segment 9: **M** to **I** (8.9 cm).
- Segment 10: **I** to **N** (2.8 cm).
- Segment 11: **N** to **E** (9.6 cm).
- Segment 12: **E** to **R** (3.1 cm).

The letters **D A N** and **R** are arranged to form the message **DAN R**.

Dag is a secret number.

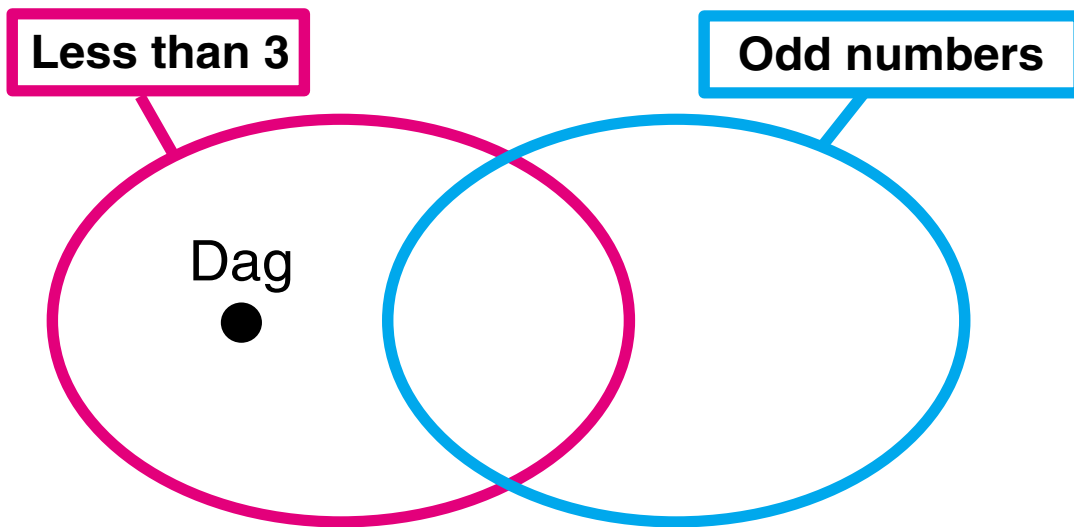
Clue 1

Dag is in this arrow picture.

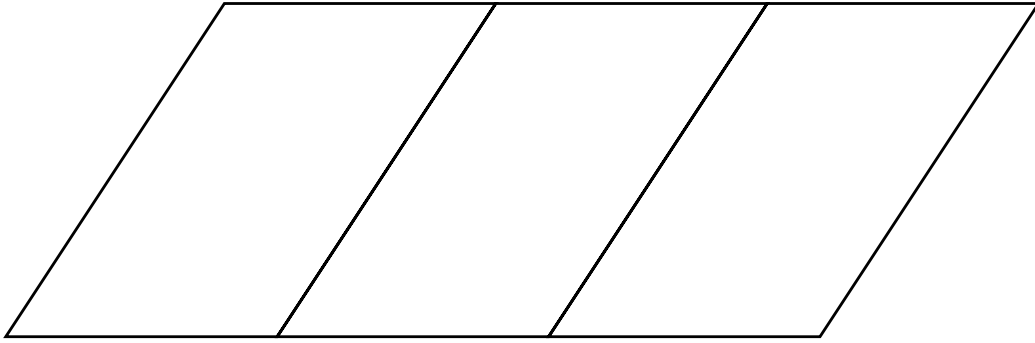


Clue 2

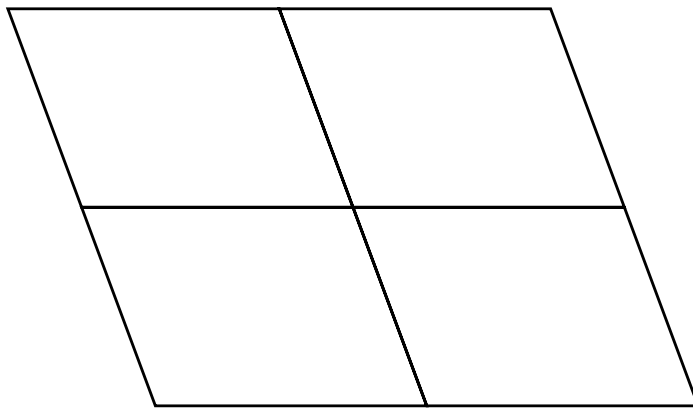
Dag is in this string picture.



Who is Dag? _____



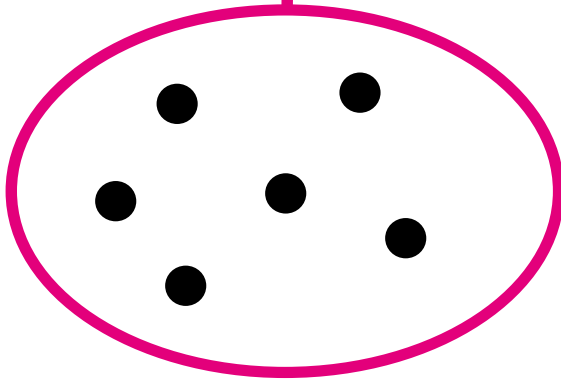
How many parallelograms do you see? _____
(Hint: There are more than three.)



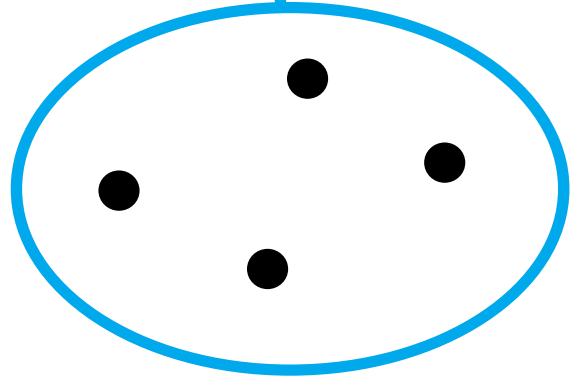
How many parallelograms do you see? _____
(Hint: There are more than six.)

Label the dots.

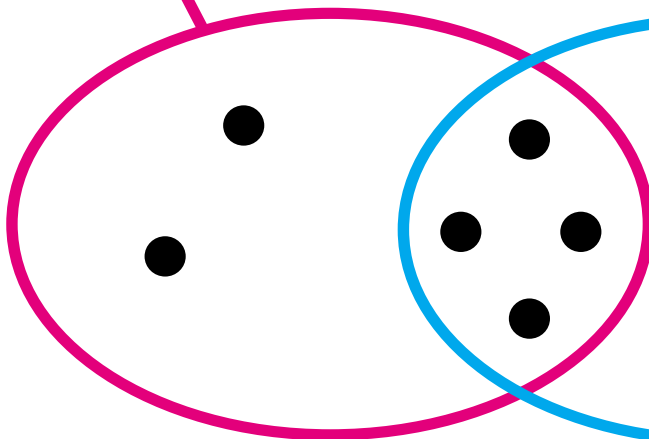
Positive divisors of 20



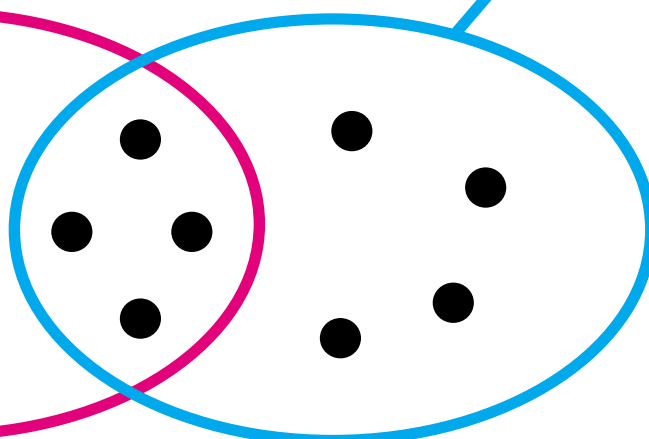
Positive divisors of 35



Positive divisors of 18



Positive divisors of 30



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

- (2) (3) (4) (5) (6) (7) (8) (9)

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 15$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 30$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 44$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 54$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 540$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 220$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 500$$

The dots on the number line are for four of these numbers.

3 750

3 910

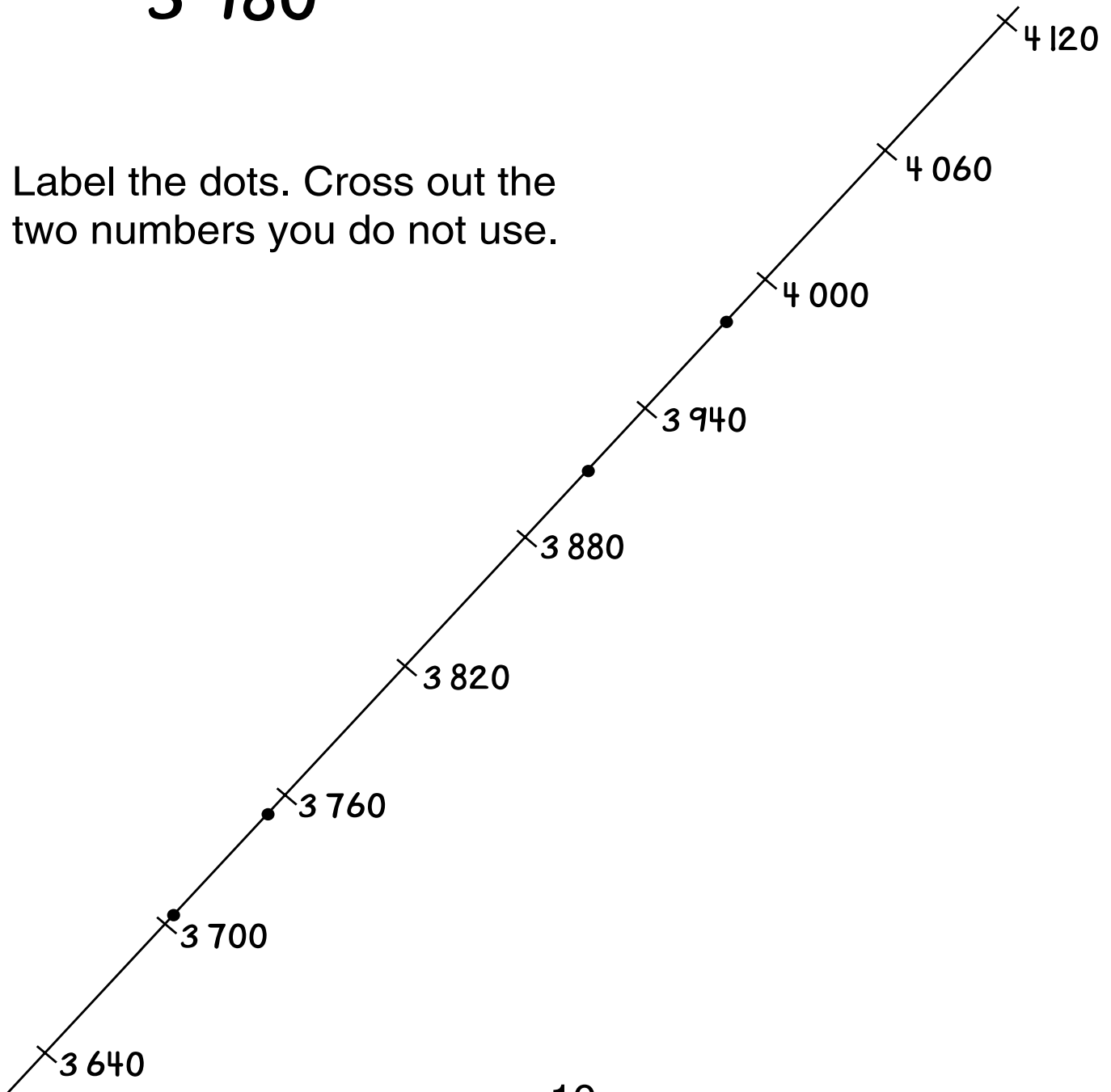
3 885

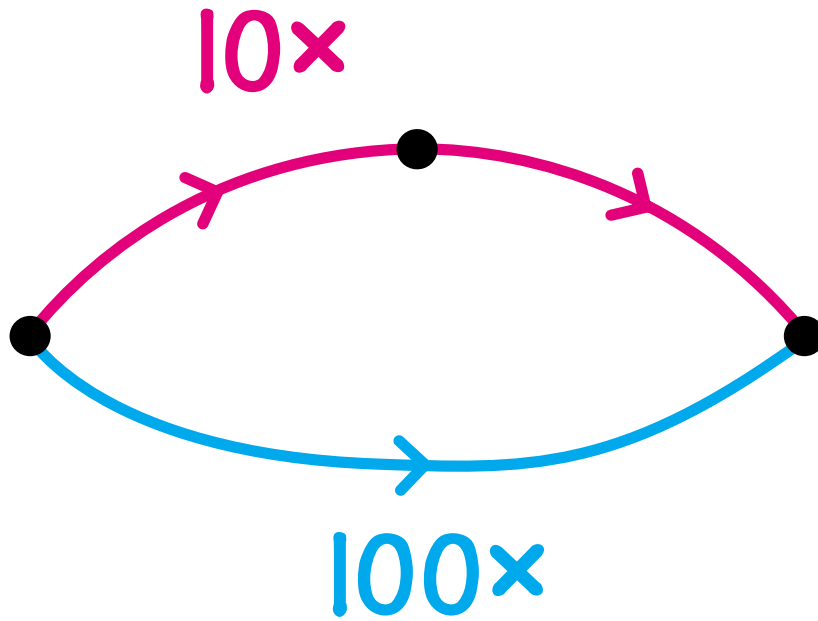
3 946

3 705

3 980

Label the dots. Cross out the two numbers you do not use.





Use the arrow picture to help you do these calculations.

$$100 \times 7 = \boxed{}$$

$$100 \times 82 = \boxed{}$$

$$100 \times 40 = \boxed{}$$

$$100 \times \boxed{} = 6800$$

$$100 \times \boxed{} = 7000$$

$$100 \times 0.06 = \boxed{}$$

Multiply.

$$\begin{array}{r} 23 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ \times 46 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ \times 35 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ \times 80 \\ \hline \end{array}$$

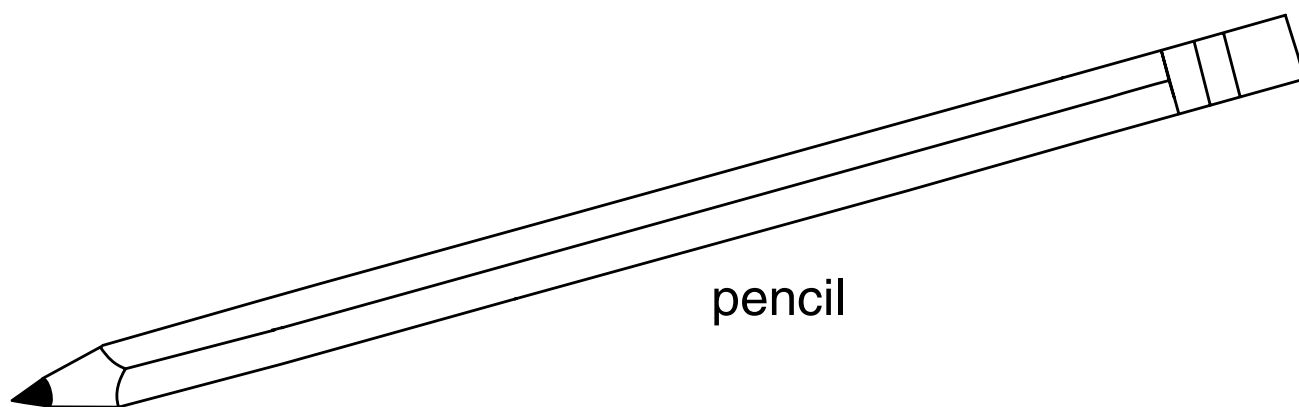
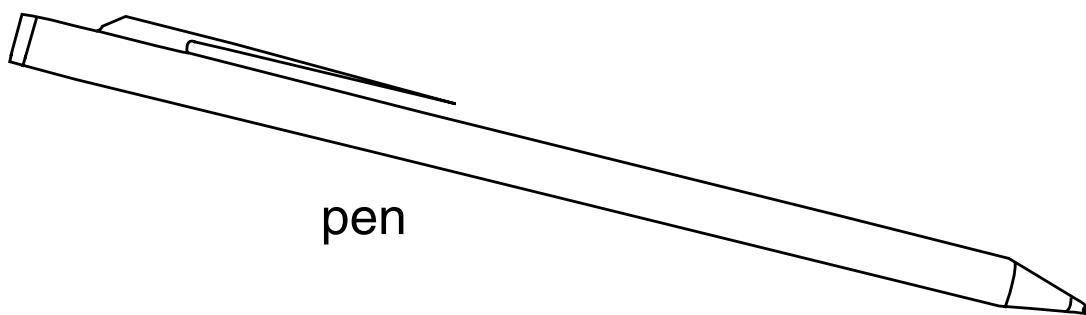
$$\begin{array}{r} 72 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ \times 87 \\ \hline \end{array}$$

Find the length of the pen and the length of the pencil to the nearest millimeter.

Pen _____ mm

Pencil _____ mm



How much longer is the pencil? _____ mm

Sherry is making boxes of art supplies. For 10 boxes she needs 60 pieces of paper; for 15 boxes she needs 45 pencils; and for 20 boxes she needs 100 paper clips. Each box has the same items in it.

Complete the list of supplies for 10, 15, and 20 boxes.

10 boxes
60 pieces paper
___ pencils
___ paper clips

15 boxes
___ pieces paper
45 pencils
___ paper clips

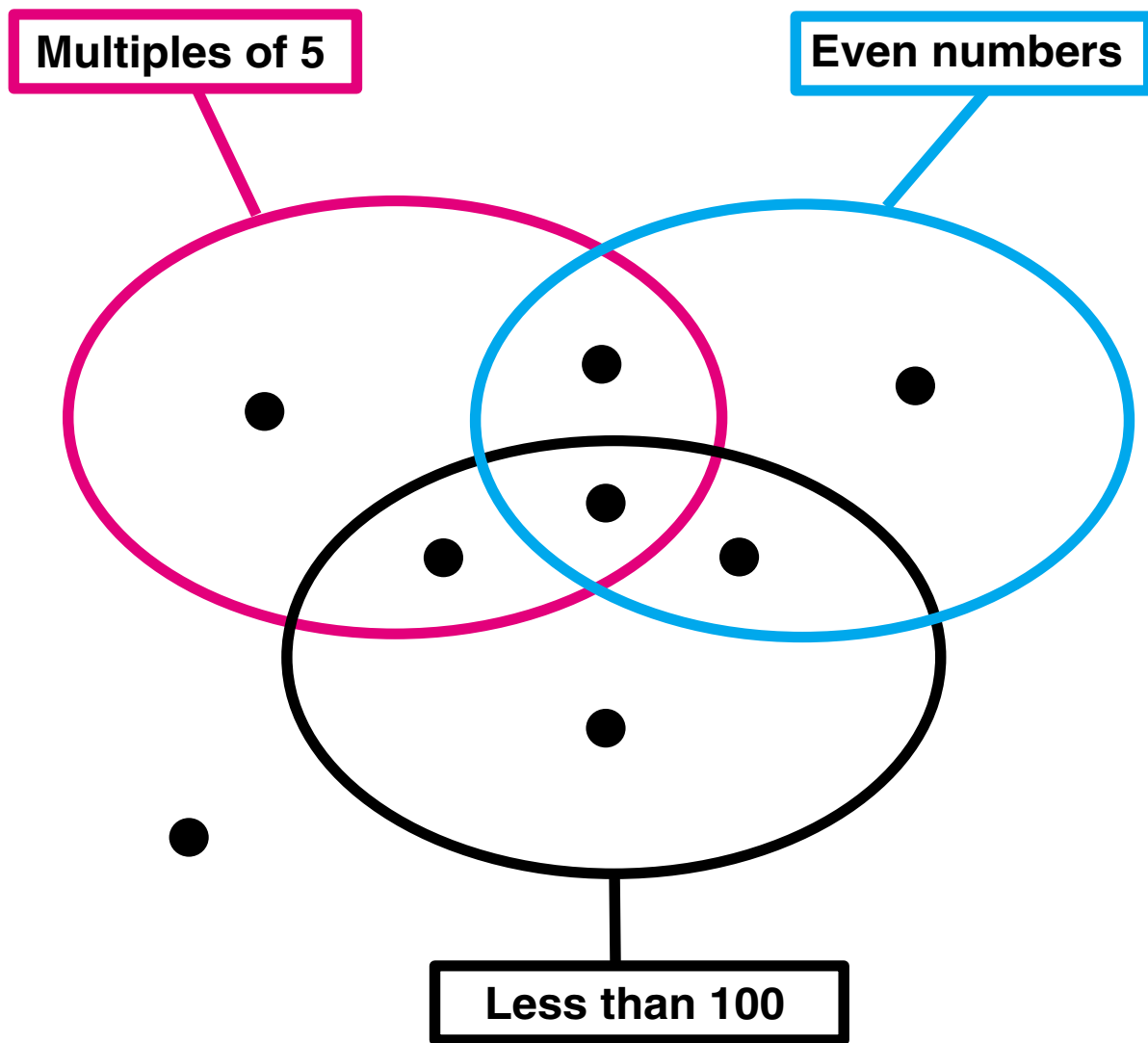
20 boxes
___ pieces paper
___ pencils
100 paper clips

Sherry wants to make enough boxes so that 75 people can get boxes of art supplies. Write the list of supplies she needs.

75 boxes
___ pieces paper
___ pencils
___ paper clips

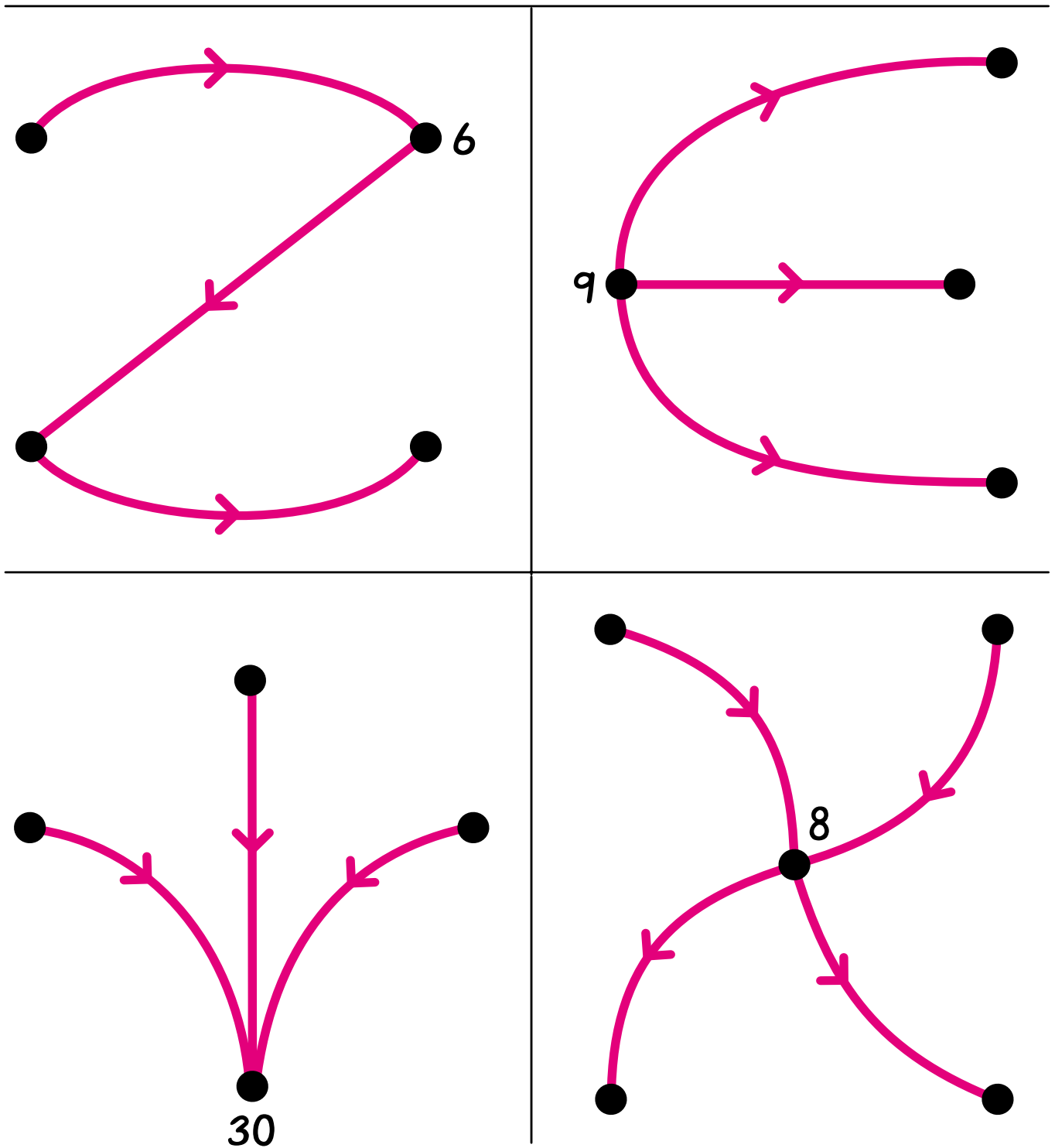
Put these numbers in the string picture.

7	8	90	95
100	101	102	105

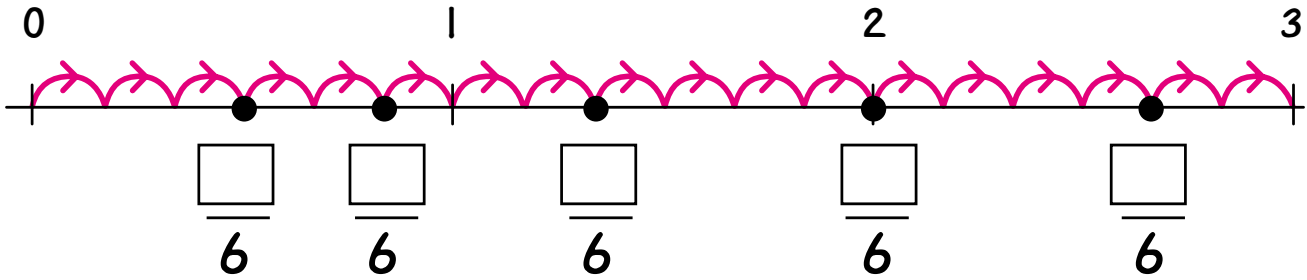


Label the dots. Many solutions are possible.

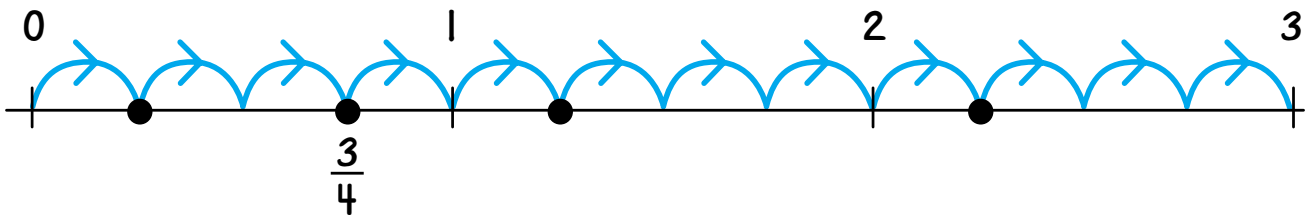
is a positive divisor of



Fill in the boxes.



Label the dots. One is done for you.



Put $<$, $=$, or $>$ in each box. Use the number lines to help you.

$$\frac{9}{4} \square \frac{8}{6}$$

$$\frac{8}{4} \square 2$$

$$\frac{5}{4} \square \frac{5}{6}$$

$$\frac{2}{4} \square \frac{3}{6}$$

Put each of these numbers on the Minicomputer using exactly one positive checker and one negative checker.



$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 6$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = \widehat{6}$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = \widehat{3}$$

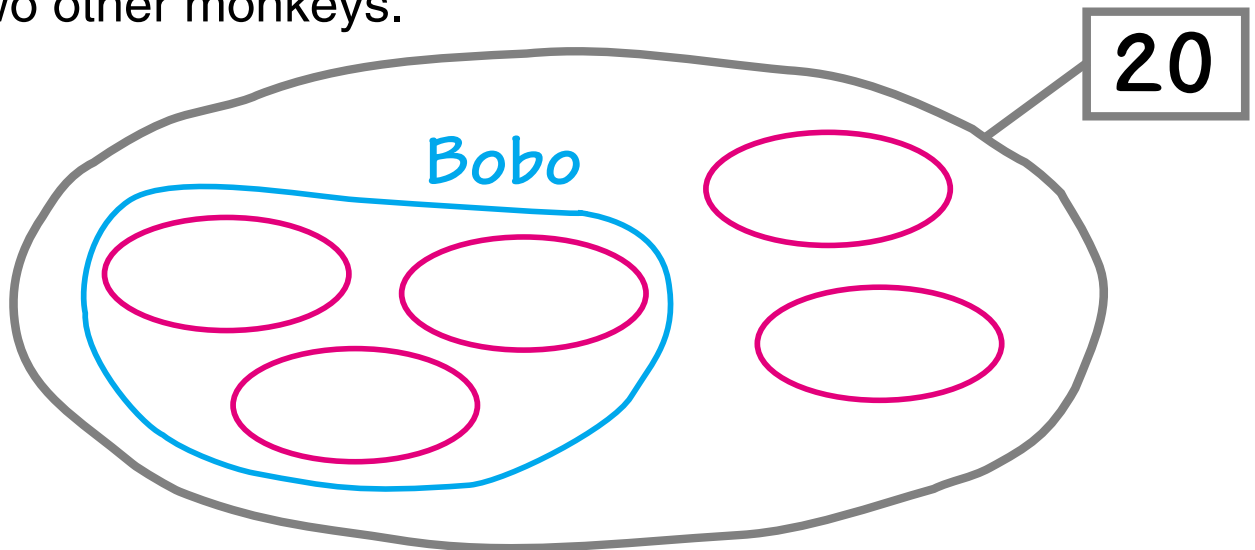
$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 0$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = \widehat{38}$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 160$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = \widehat{1990}$$

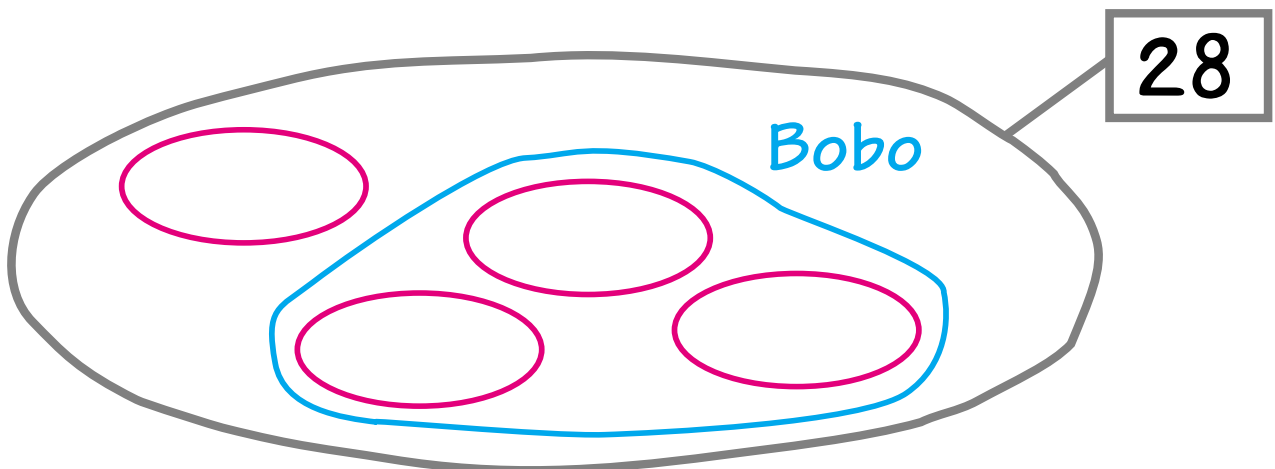
A zookeeper shares 20 bananas fairly among 5 monkeys. But Bobo eats his own bananas and he eats the bananas for two other monkeys.



How many bananas does the zookeeper give to each monkey? _____

How many bananas does Bobo eat? _____

A zookeeper shares 28 bananas fairly among 4 monkeys. Again, Bobo eats his own bananas and he eats the bananas for two other monkeys.



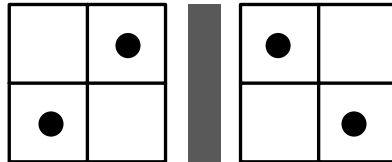
How many bananas does the zookeeper give to each monkey? _____

How many bananas does Bobo eat? _____

Loc is a secret number.

Clue 1

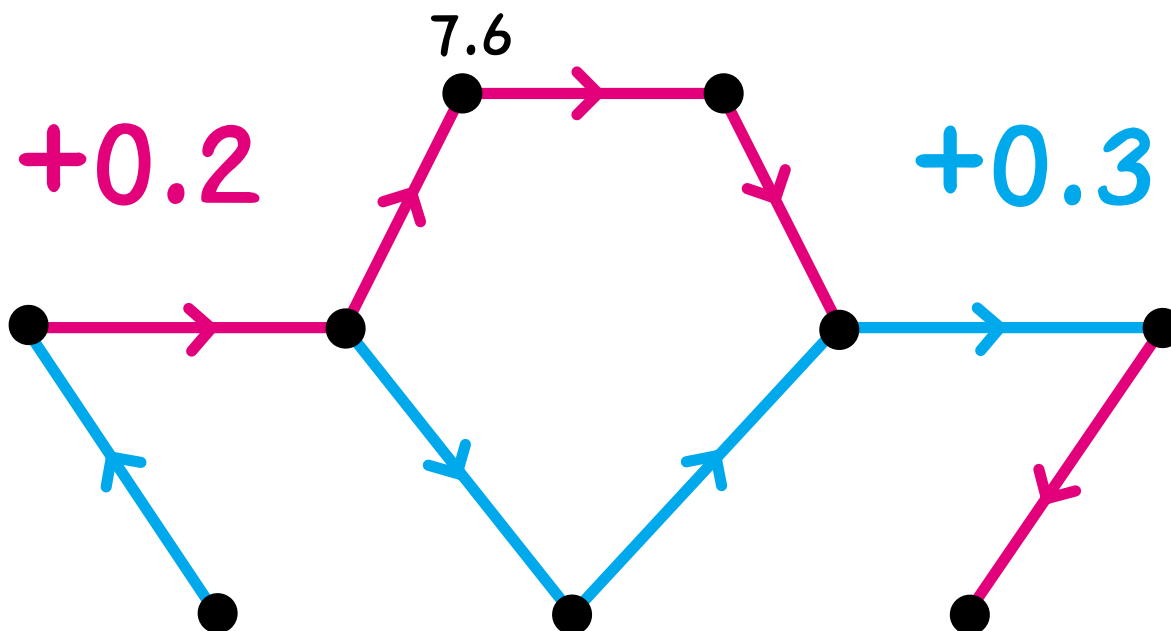
Loc can be put on this Minicomputer by adding exactly one regular checker.



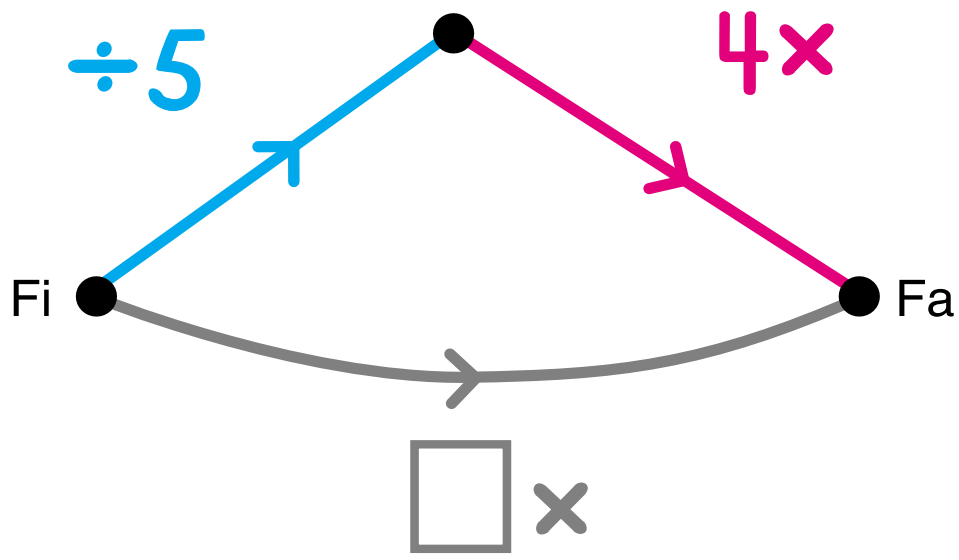
Loc could be _____, _____, _____, _____, _____, _____, _____,
or _____.

Clue 2

Loc is in this arrow picture.



Who is Loc? _____



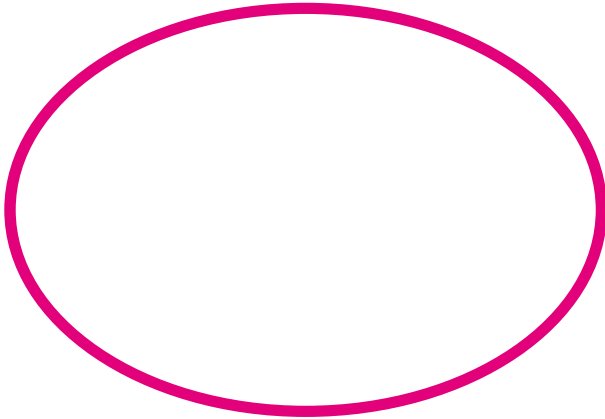
Complete the tables.

Fi	Fa
15	
25	
40	
	40
	24

Fi	Fa
35	
350	
3 500	
	16
	160

Label the gray arrow.

We know that this red string is either for multiples of 3 or for multiples of 7.



Multiples of 3

or

Multiples of 7

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

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

17

21

27

56

63

103

Which two numbers have neither a circle nor a triangle around them because we cannot tell for sure where they belong? _____ and _____

Complete.

$$680 \div 5 = 136$$

$685 \div 5 = \boxed{}$

$675 \div 5 = \boxed{}$

$695 \div 5 = \boxed{}$

$660 \div 5 = \boxed{}$

Complete.

$$420 \div 7 = \boxed{}$$

$427 \div 7 = \boxed{}$

$413 \div 7 = \boxed{}$

$448 \div 7 = \boxed{}$

$399 \div 7 = \boxed{}$

$462 \div 7 = \boxed{}$

$378 \div 7 = \boxed{}$

Find all of the possible ending numbers of an arrow road that starts at $\hat{2}$ and has exactly one $+8$ arrow and three $10x$ arrows. You may draw a tree diagram with arrows to help you.

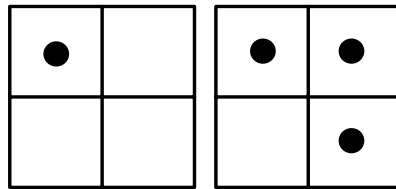
$+8$

$10x$

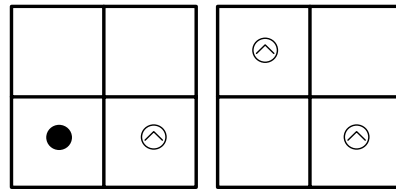
$\hat{2}$
●

List the ending numbers.

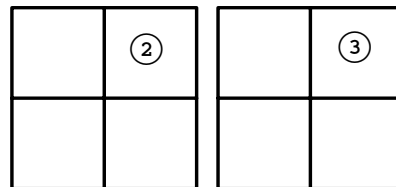
Move one checker to put 109 on the Minicomputer.



Move one checker to put 7 on the Minicomputer.

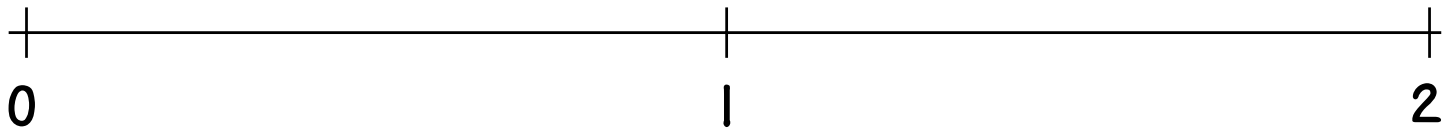


Move one checker to put 28 on the Minicomputer.

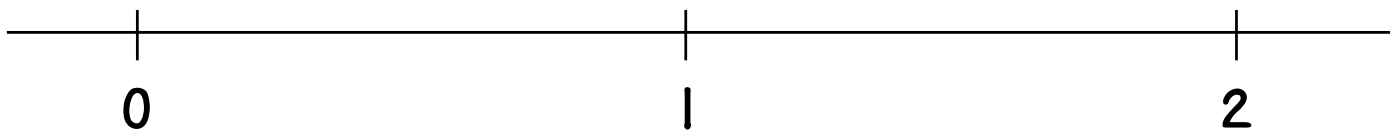


Use a ruler to accurately place the fractions.

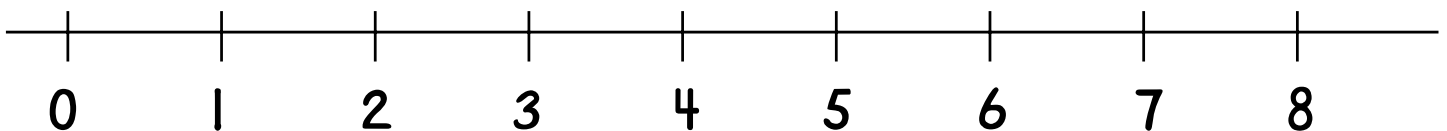
Label $\frac{1}{3}$, $\frac{2}{3}$, and $\frac{5}{3}$ on this number line.

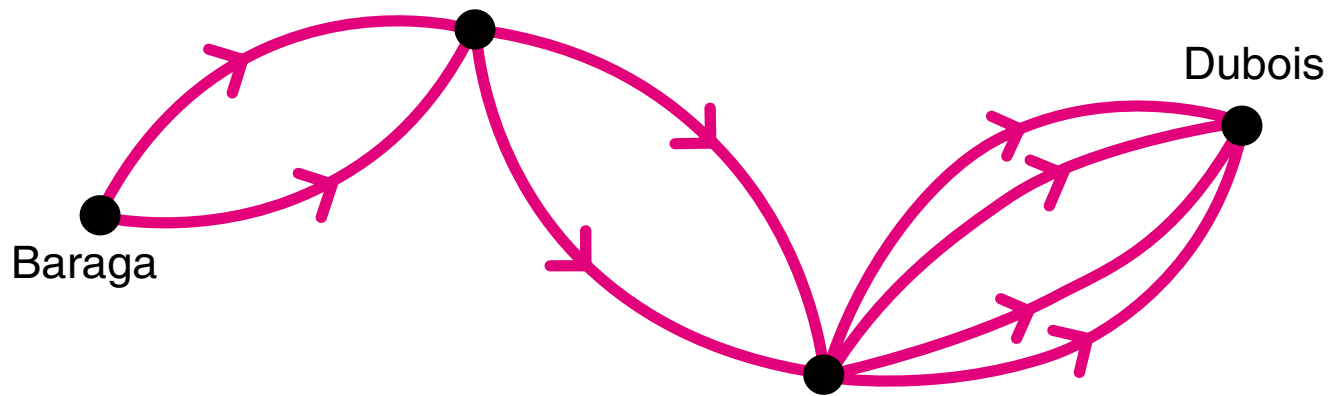


Label $\frac{3}{7}$, $\frac{10}{7}$, and $\frac{14}{7}$ on this number line.

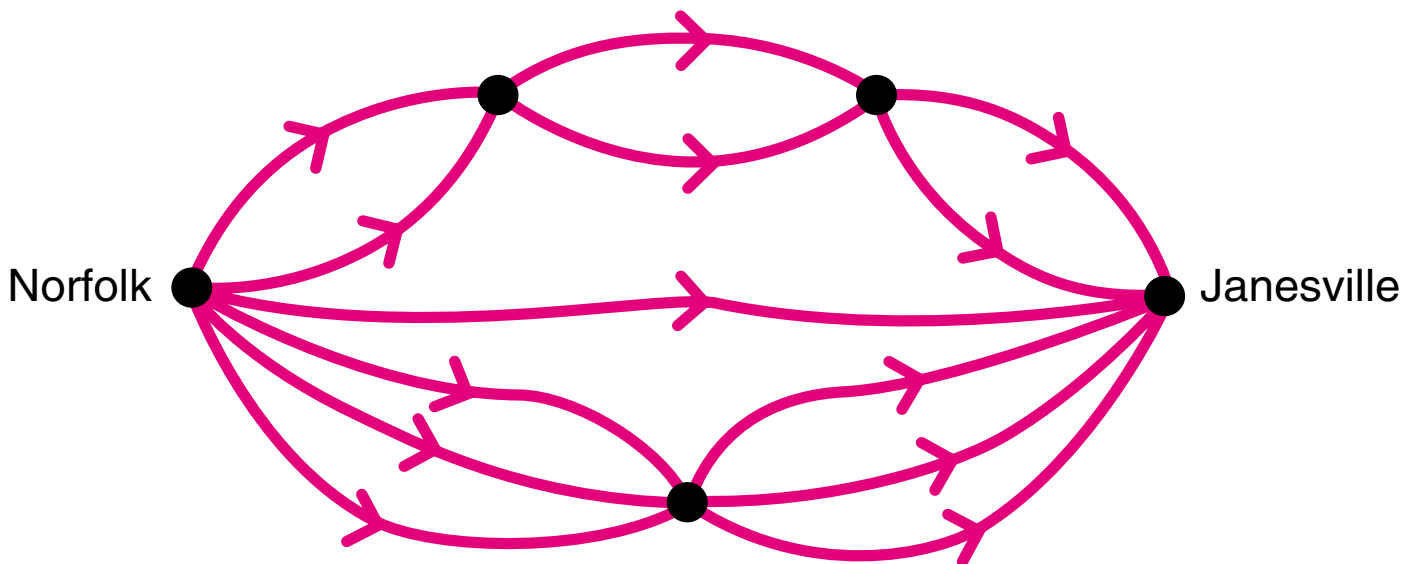


Label $\frac{3}{4}$, $\frac{13}{4}$, and $\frac{23}{4}$ on this number line.





How many different routes are there from Baraga to Dubois? _____



How many different routes are there from Norfolk to Janesville? _____

Ken is a secret number.

Clue 1

Ken is the ending number of an arrow road starting at 3 and using exactly two $\div 2$ arrows and two $+10$ arrows.

$\div 2$

$+10$

3 ●

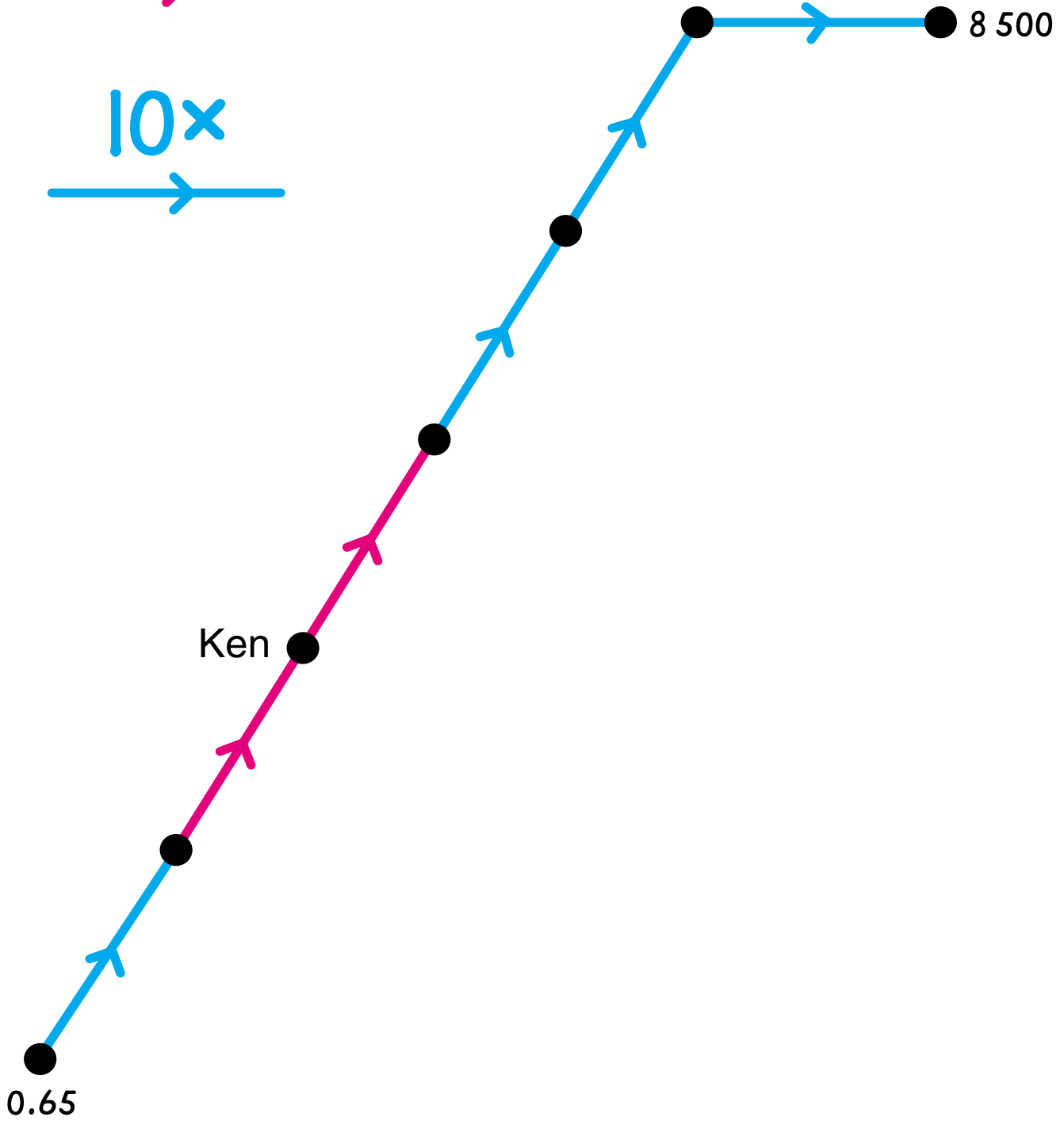
Ken could be _____, _____, _____, _____, _____,
or _____.

Clue 2

is less than

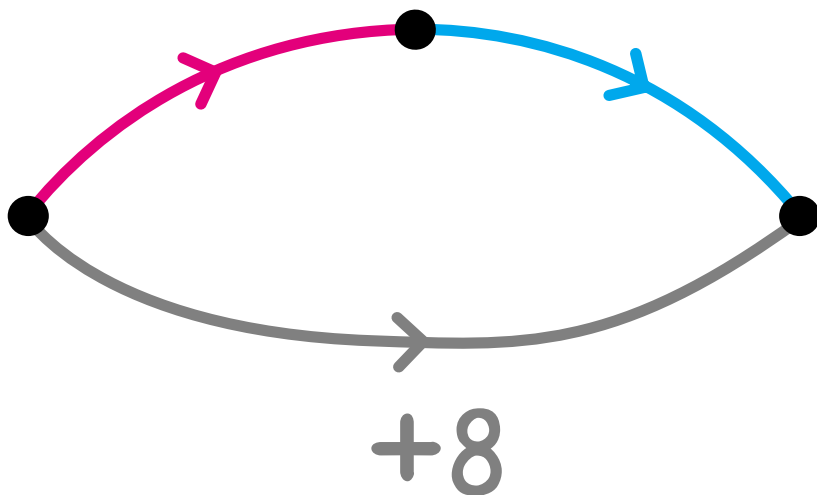


10x

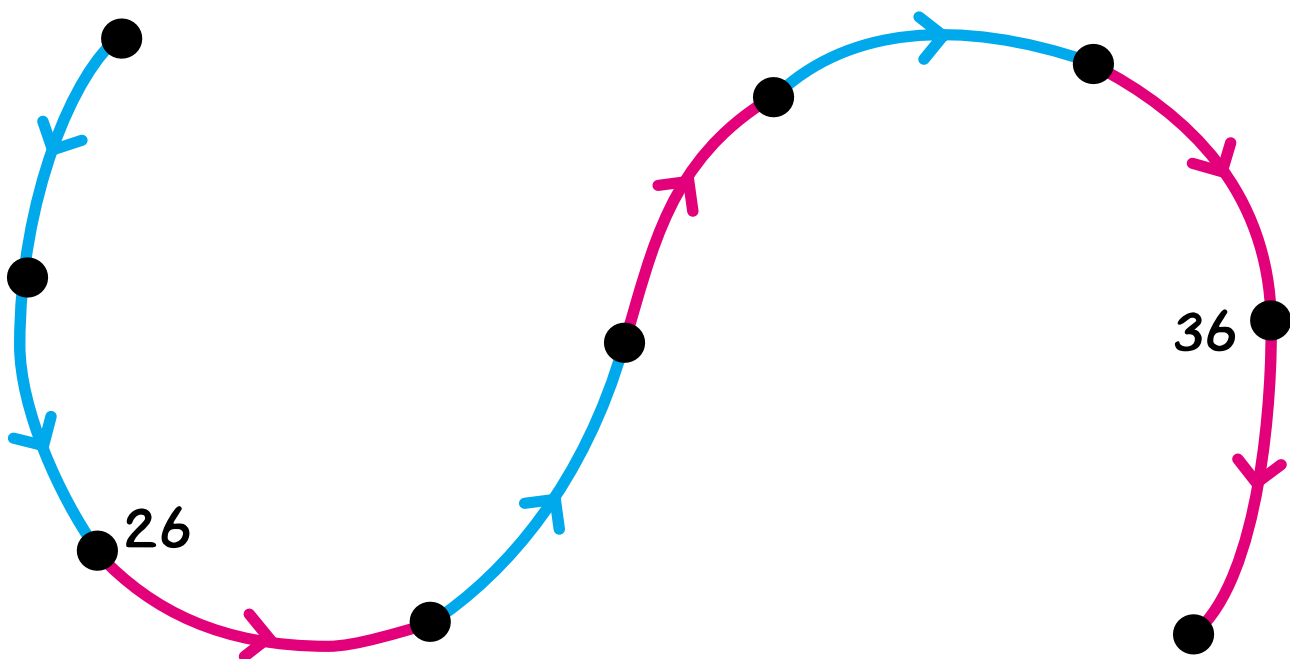


Who is Ken? _____

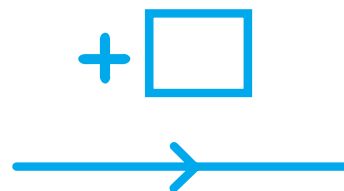
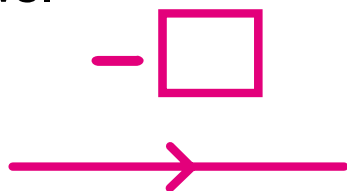
Using this arrow picture,



label the dots.



Label the arrows.



30

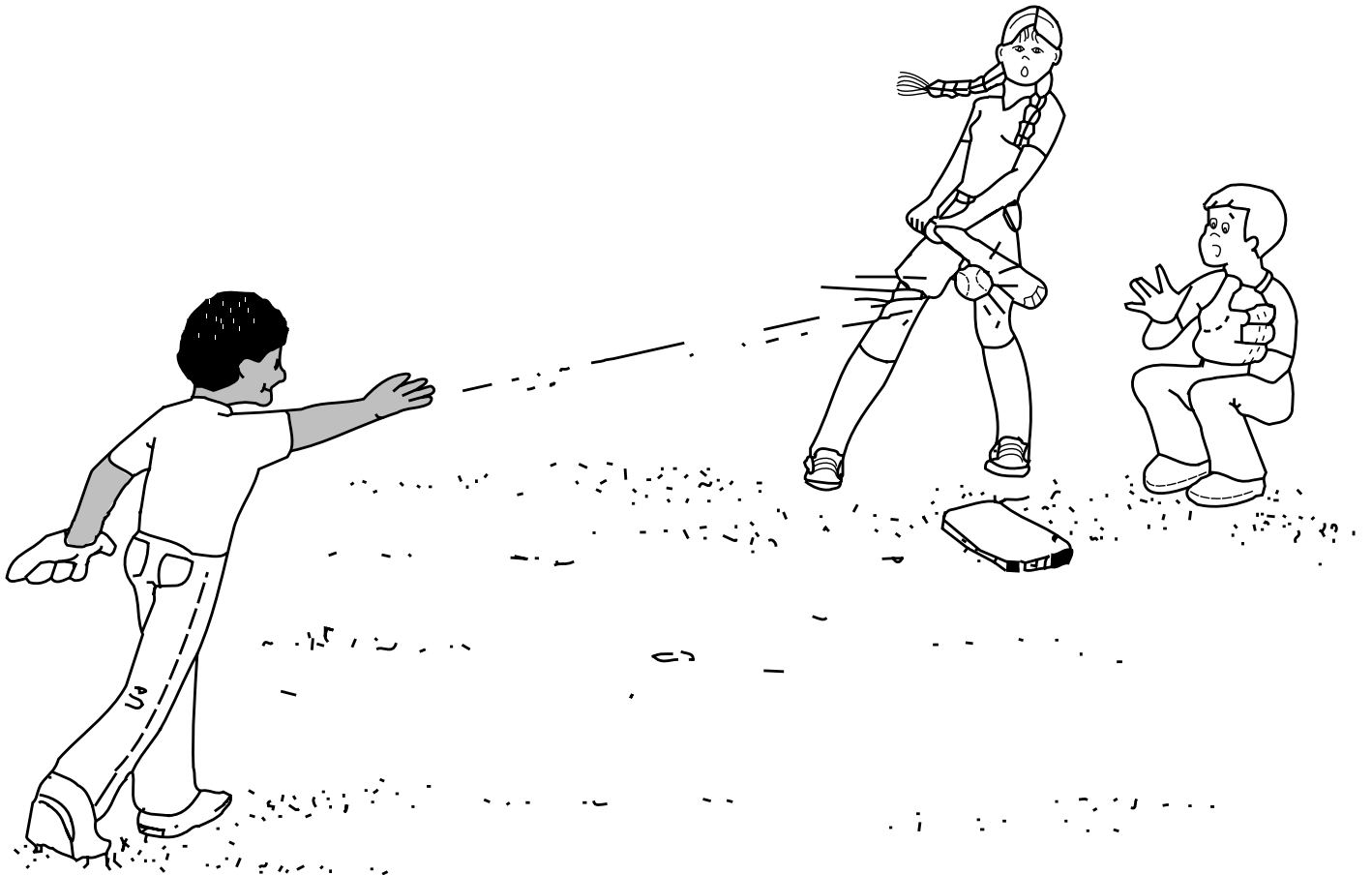
Sports Day

Halloran School is planning a sports day. The activities will begin at 8:00 a.m. and end at 3:00 p.m., with a 1 hour lunch period somewhere in between.

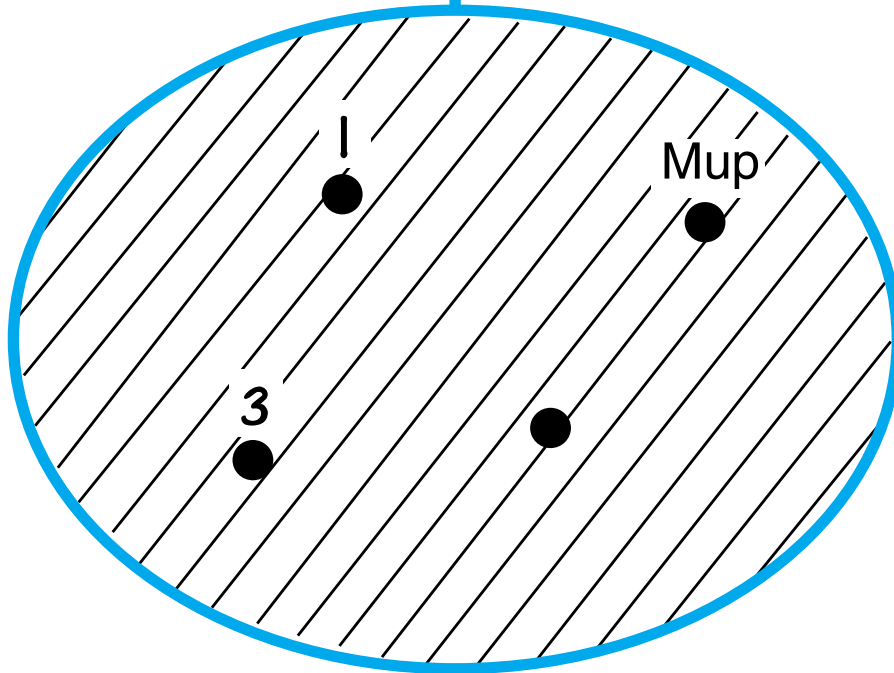
How many 40 minute activities can the coach schedule?
(Don't forget to take time out for lunch.) _____

How many activities do you think the coach should schedule before lunch? _____ How many after lunch? _____

Based on your last two answers, at what time would lunch be scheduled? _____



Positive divisors of Mup



Mup must have exactly four positive divisors. List at least five numbers Mup could be.

What do you notice about numbers that Mup could be? _____
