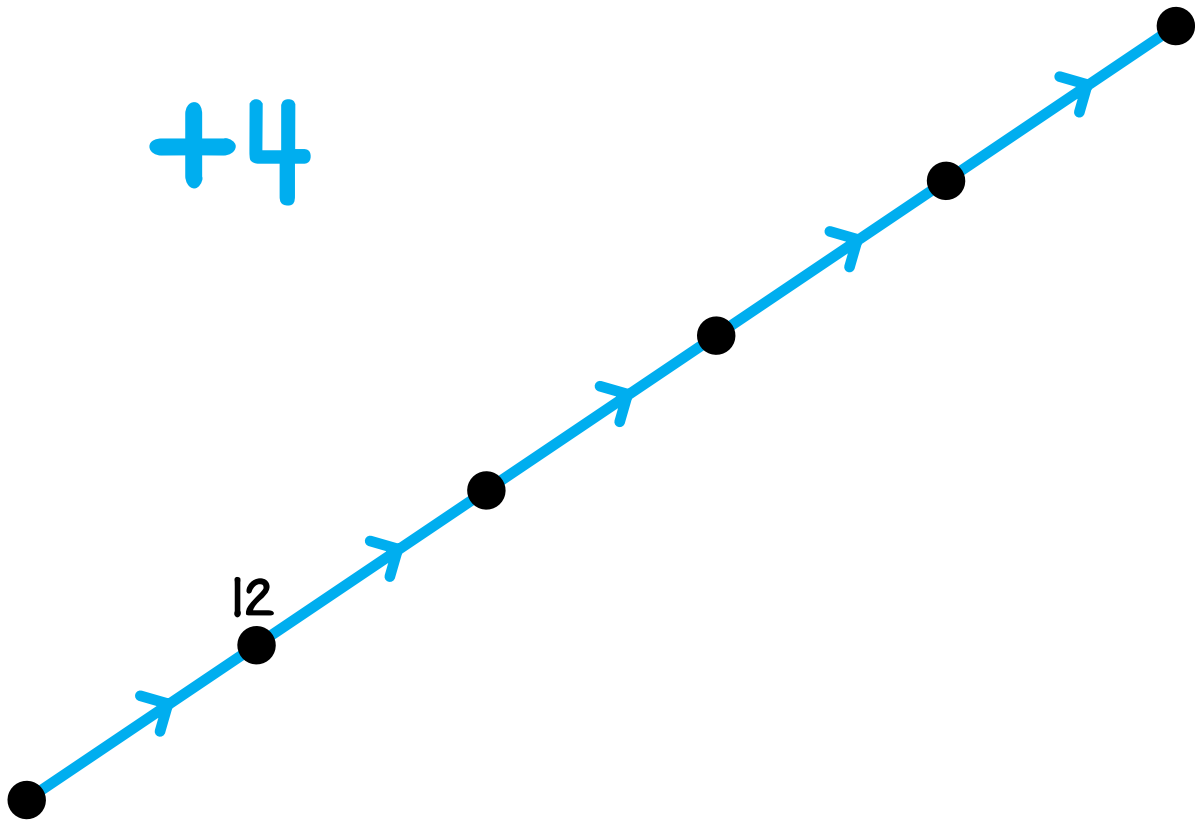


# Galaxy of Problems #1

Label the dots.

Circle the greatest number in this arrow picture.



Complete.

$$\begin{array}{r} 8 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ + 4 \\ \hline \end{array}$$

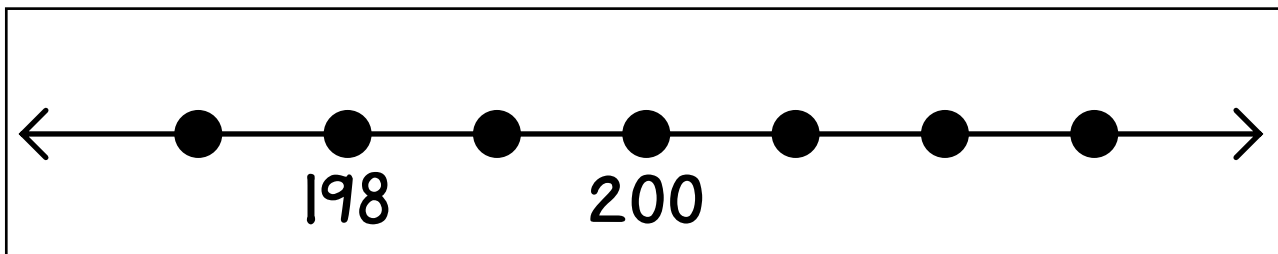
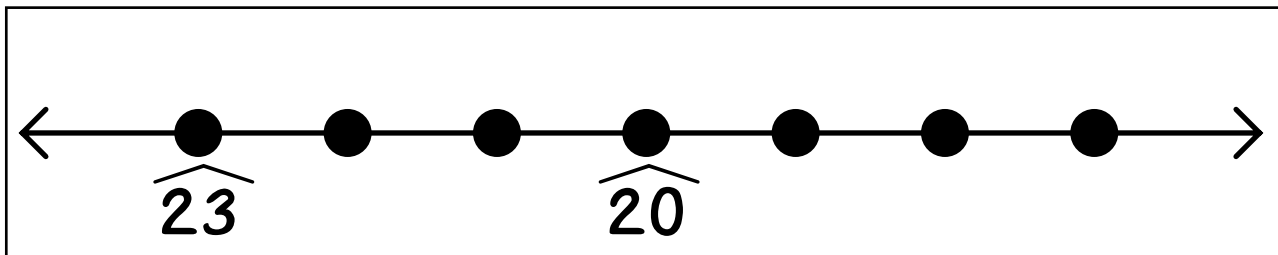
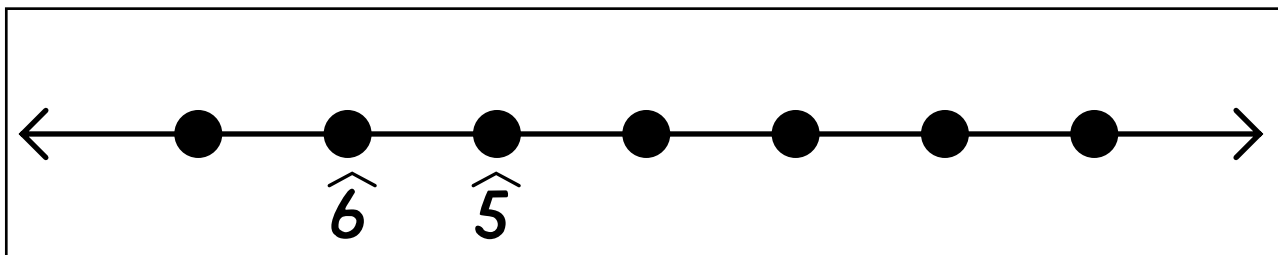
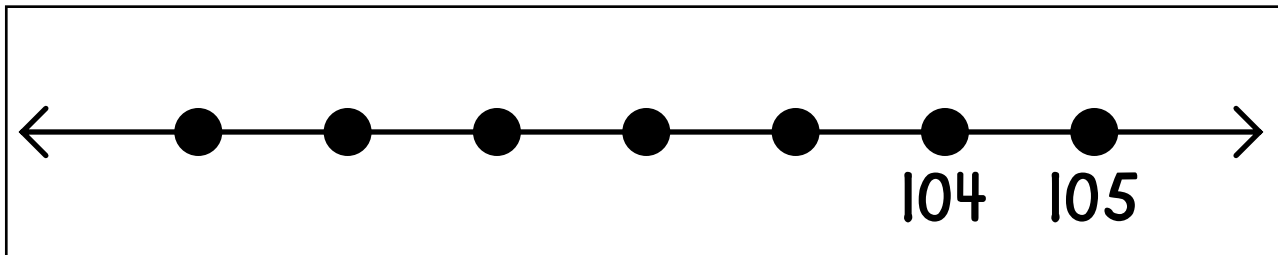
$$\begin{array}{r} 26 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ + 4 \\ \hline \end{array}$$

Label the dots on these number lines.



Build an arrow road from 5 to 50 using +10 and +1 arrows.

+10

+1

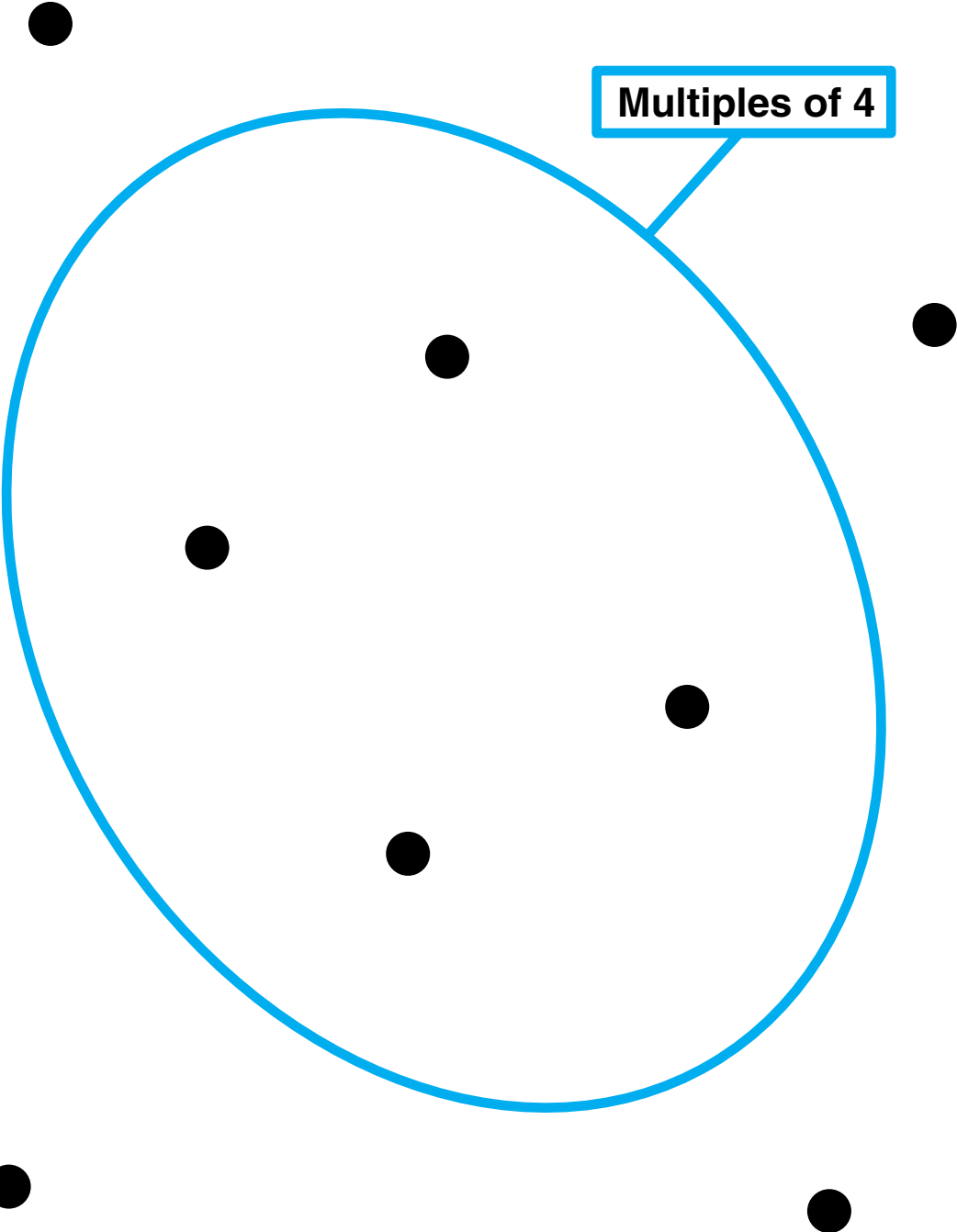
50  
●

●  
5

How many +10 arrows? \_\_\_\_\_

How many +1 arrows? \_\_\_\_\_

Label the dots in this string picture.  
Many solutions are possible.



Complete this addition table.

+	10	9	7	8
10				
8				
9				
7				

$$\begin{array}{r} 9 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ +8 \\ \hline \end{array}$$

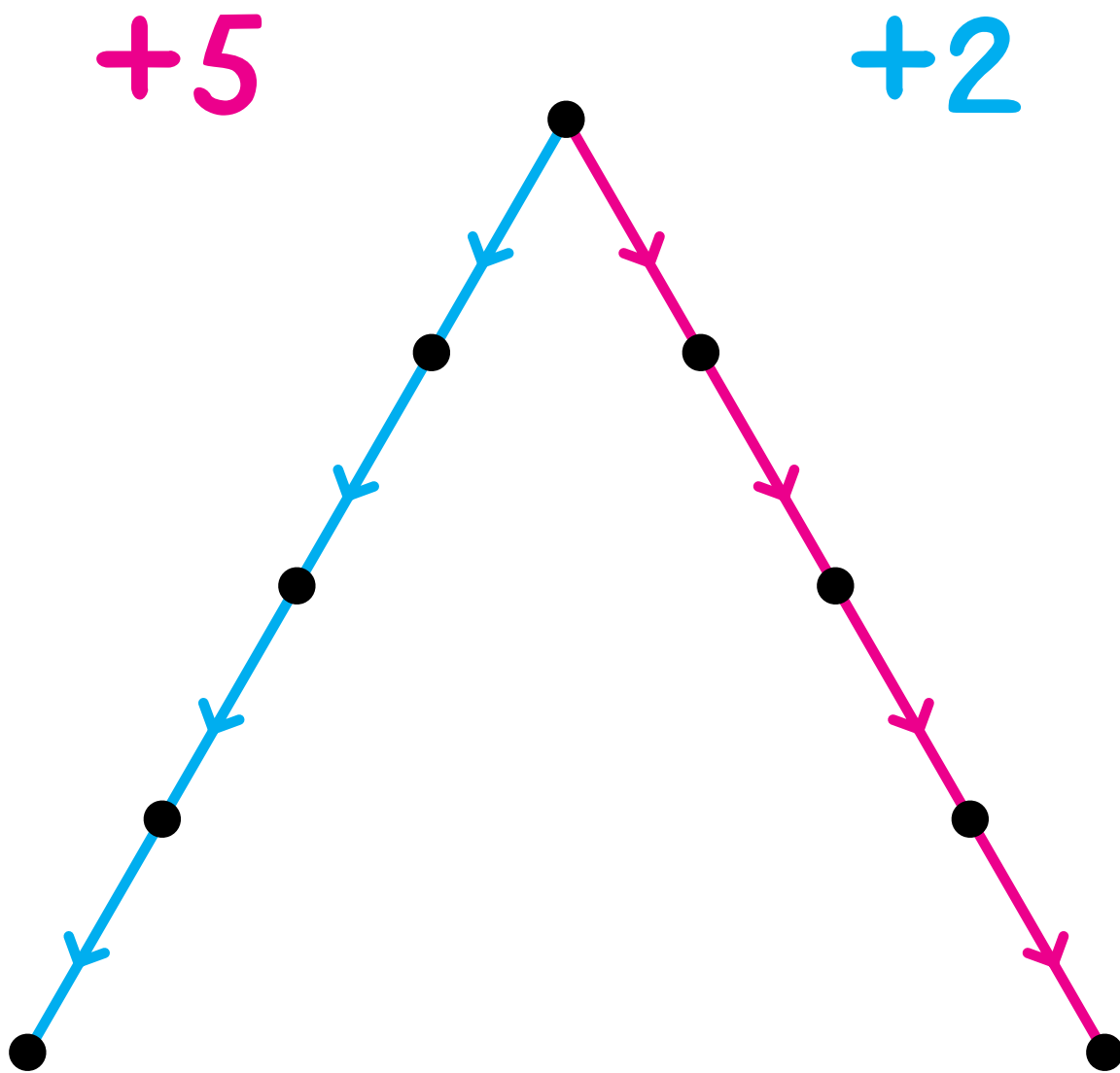
$$\begin{array}{r} 7 \\ +11 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ +8 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ +10 \\ \hline \end{array}$$

7 is the least number in this arrow picture. Label the dots.



7

What number is on the Minicomputer?

			10

 = \_\_\_\_\_

	10		

 = \_\_\_\_\_

		10	

 = \_\_\_\_\_

10			

 = \_\_\_\_\_

			10

 = \_\_\_\_\_

	10		

 = \_\_\_\_\_

		10	

 = \_\_\_\_\_

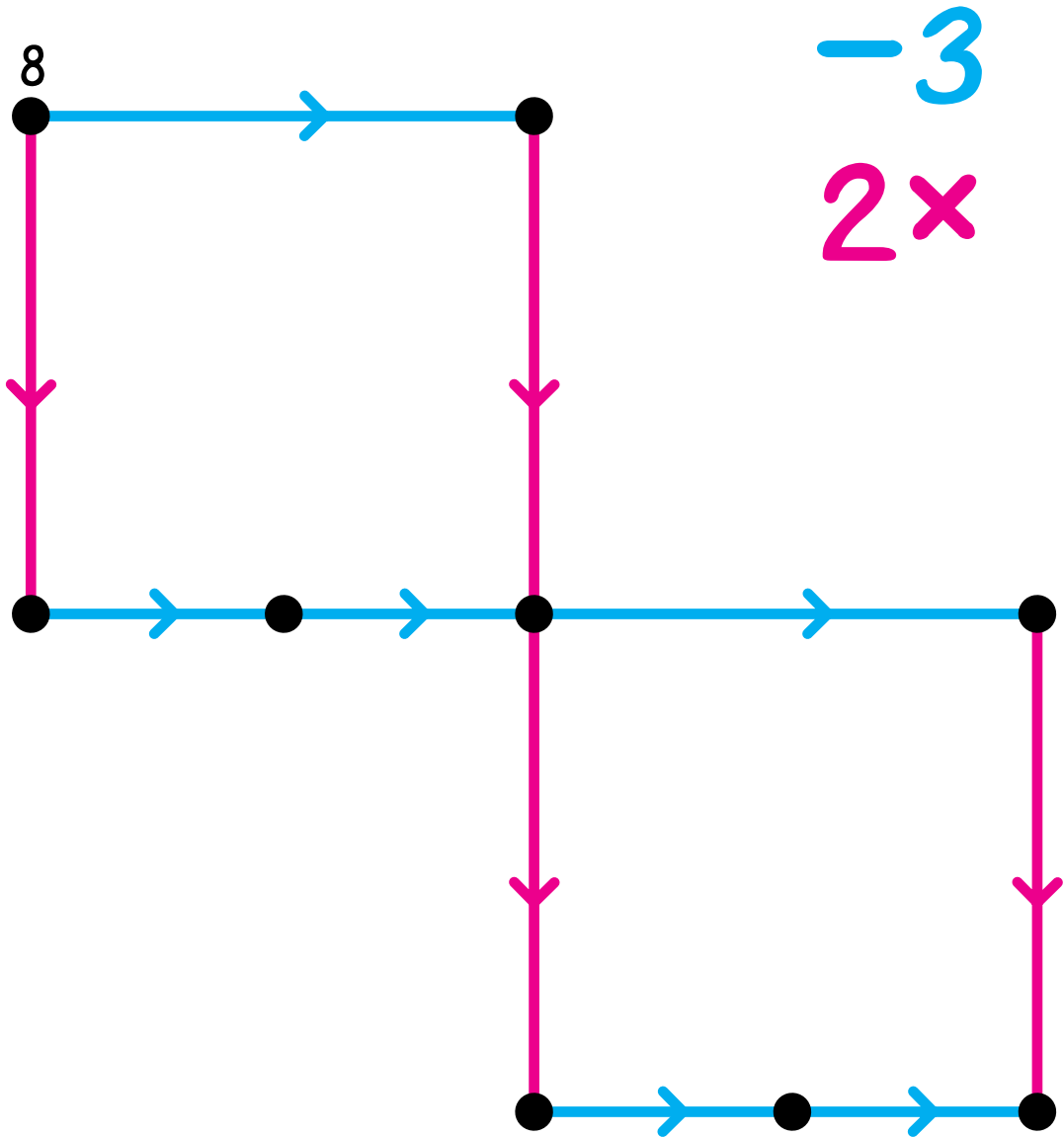
10			

 = \_\_\_\_\_



Label the dots.

Circle the greatest number in this arrow picture.



Complete.

$15 + 15 + 15 = \underline{\quad}$

$21 + 21 + 21 = \underline{\quad}$

$3 \times 15 = \underline{\quad}$

$$\begin{array}{r} 21 \\ \times 3 \\ \hline \end{array}$$

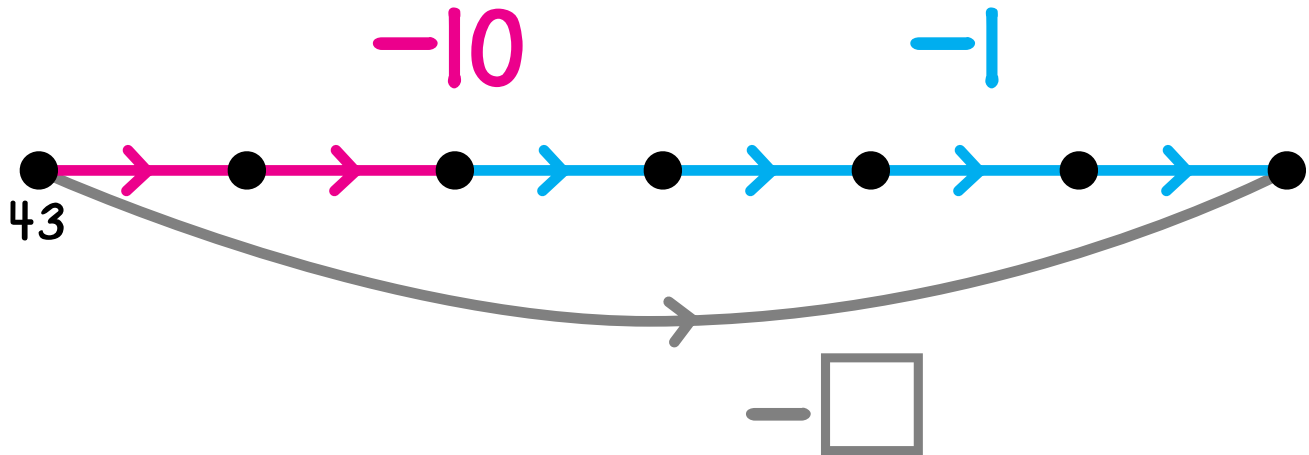
$$\begin{array}{r} 16 \\ 16 \\ + 16 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ 18 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ \times 3 \\ \hline \end{array}$$

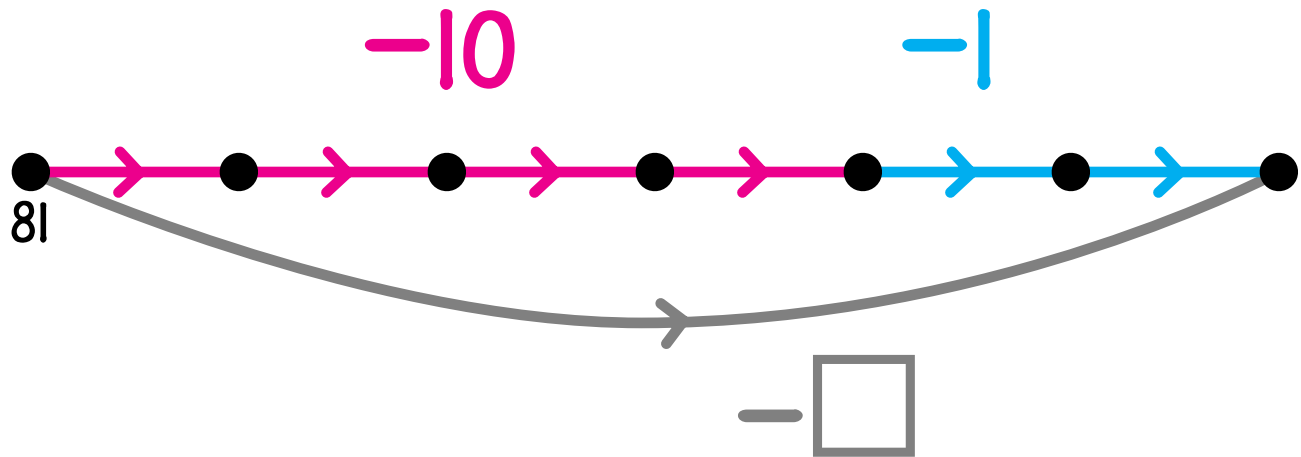
$3 \times 16 = \underline{\quad}$

Label the dots. Fill in the box for each gray arrow.



Write a calculation shown by the gray arrow. \_\_\_\_\_

---



Write a calculation shown by the gray arrow. \_\_\_\_\_

---

Draw an arrow picture to do this subtraction calculation.

$$51 - 33$$

What number is on the Minicomputer?

	●

	●
●	

= \_\_\_\_\_

	●
	●

	●
●	●

= \_\_\_\_\_

	⊕

	⊕
⊕	

= \_\_\_\_\_

	⊕
	⊕

	⊕
⊕	⊕

= \_\_\_\_\_

	●

●	⊕
⊕	

= \_\_\_\_\_

	●
	⊕

	●
●	⊕

= \_\_\_\_\_

Put any number you wish on the Minicomputer using two positive checkers and one negative checker.



= \_\_\_\_\_



= \_\_\_\_\_

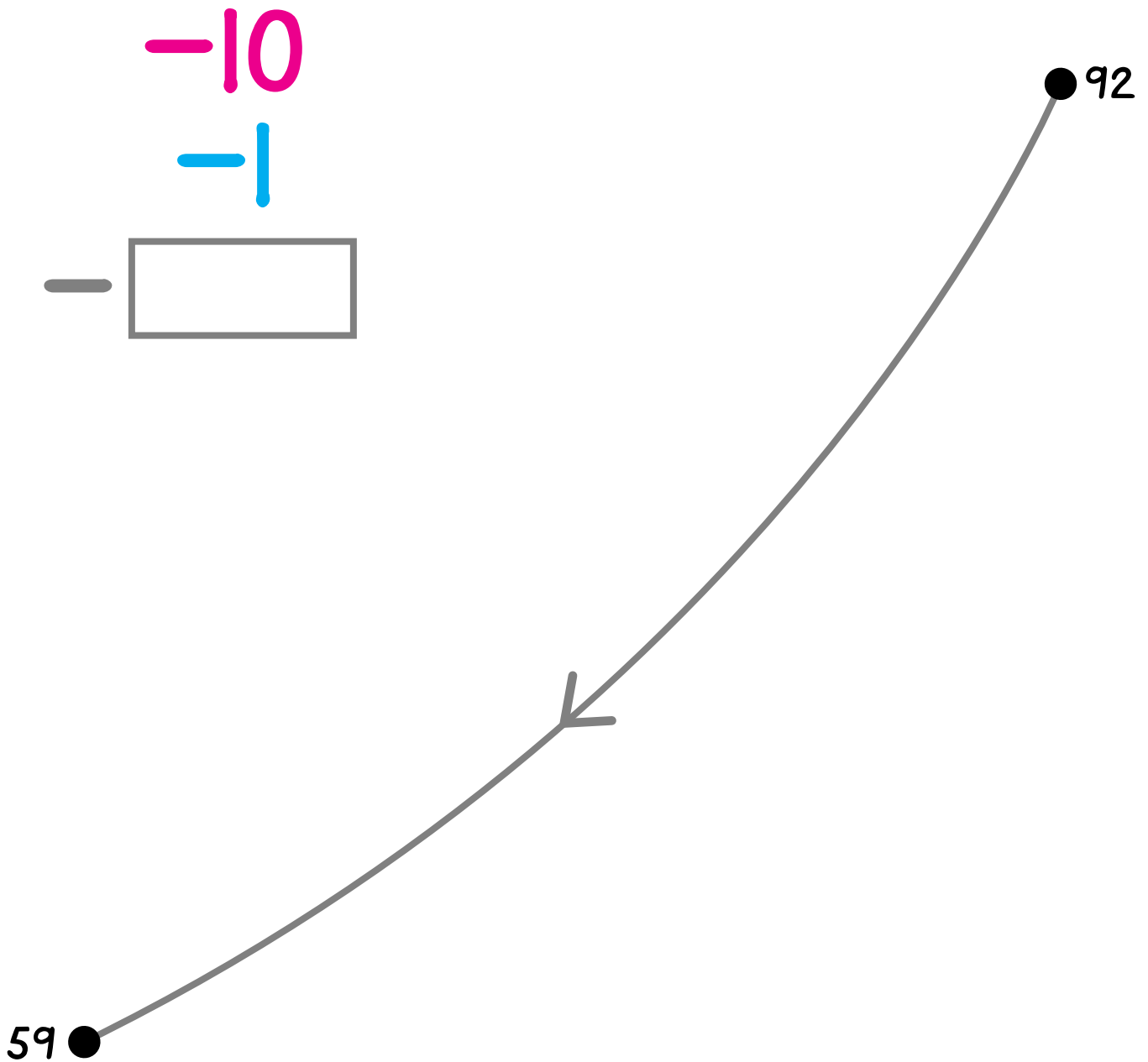


= \_\_\_\_\_



= \_\_\_\_\_

Build an arrow road from 92 to 59 using  $-10$  and  $-1$  arrows.  
Fill in the box for the gray arrow.



Write a calculation shown by the gray arrow.

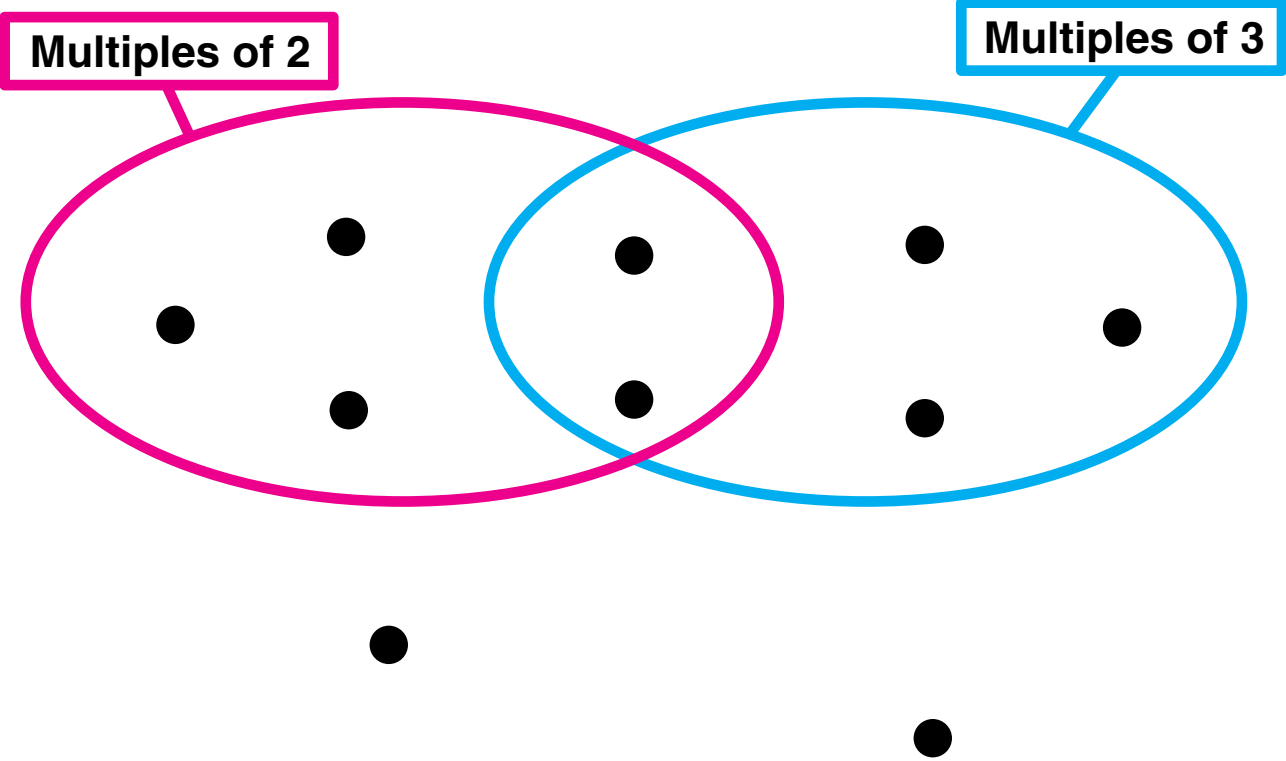
Complete this subtraction table.

<b>-</b>	<b>5</b>	<b>7</b>	<b>3</b>	<b>8</b>
<b>10</b>				
<b>15</b>				

Complete this multiplication table.

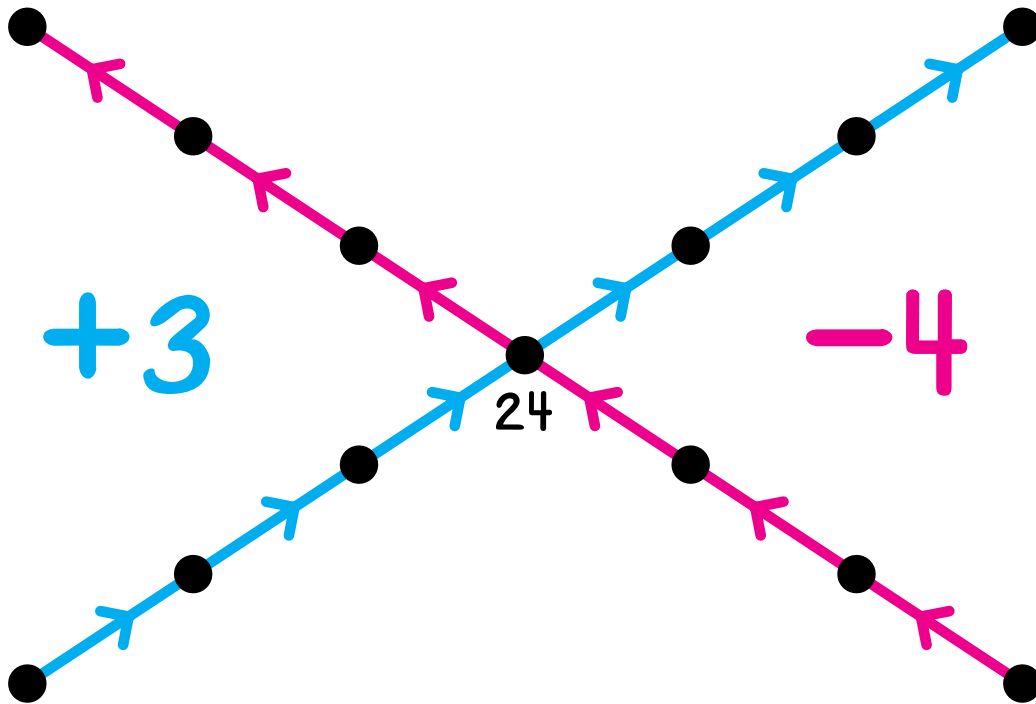
<b>×</b>	<b>6</b>	<b>4</b>	<b>9</b>	<b>10</b>
<b>2</b>				
<b>3</b>				

Label the dots in this string picture.  
Many solutions are possible.



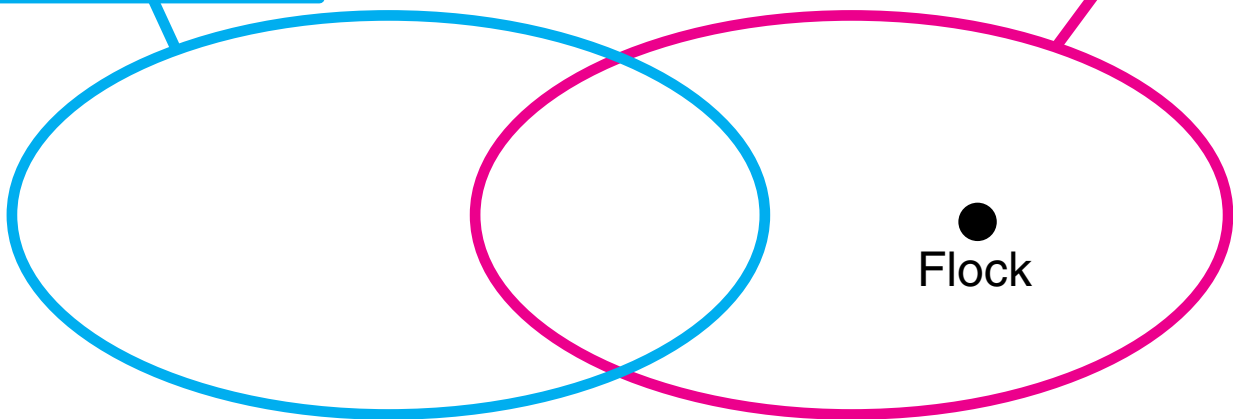
Flock is a secret number.

Flock is in this arrow picture and in this string picture.



Even numbers

Multiples of 7



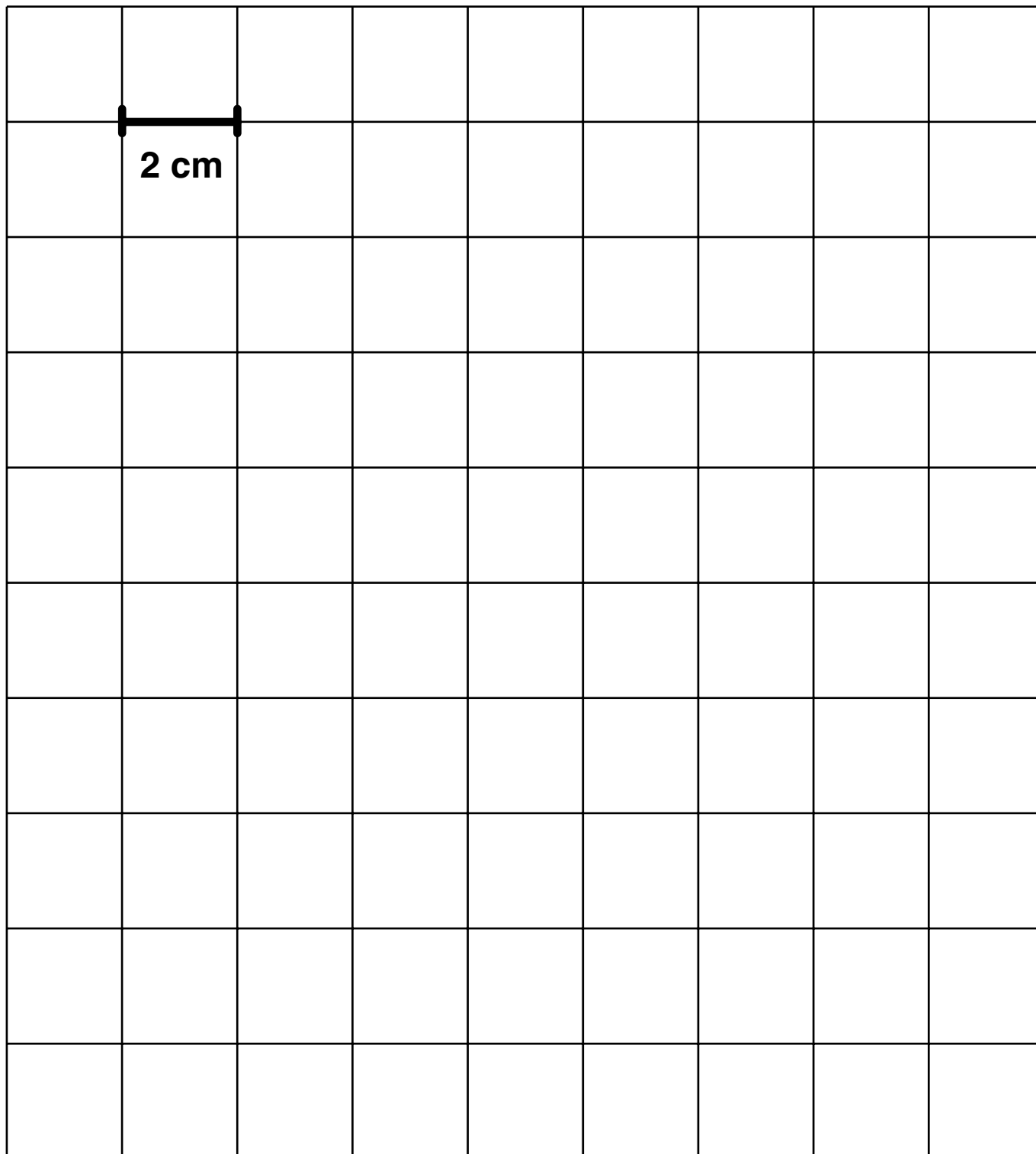
Who is Flock? \_\_\_\_\_



Draw a red zigzag path that is 18 cm long.

Draw a blue zigzag path that is 7 cm long.

Draw a green zigzag path that is 21 cm long.



Complete these number sentences.

$$(6 + 5) \times 2 = \underline{\hspace{2cm}}$$

$$6 + (5 \times 2) = \underline{\hspace{2cm}}$$

---

$$(7 - 2) \times 3 = \underline{\hspace{2cm}}$$

$$7 - (2 \times 3) = \underline{\hspace{2cm}}$$

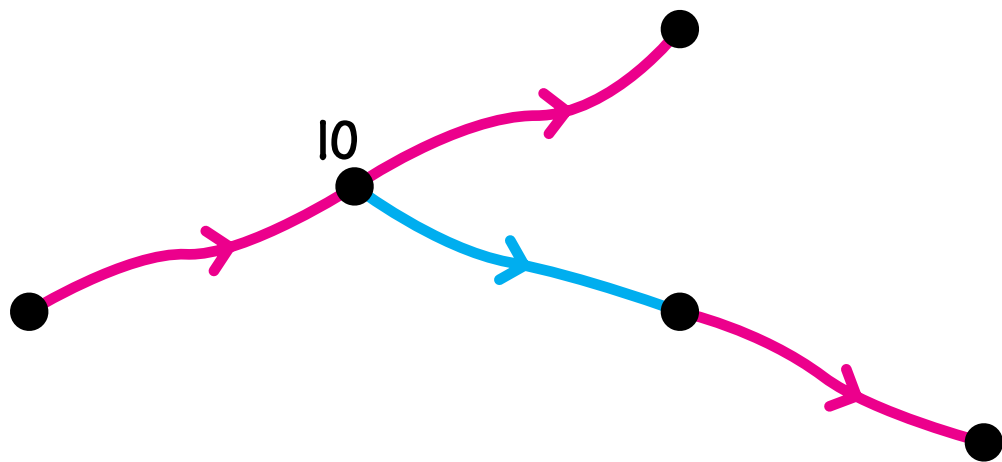
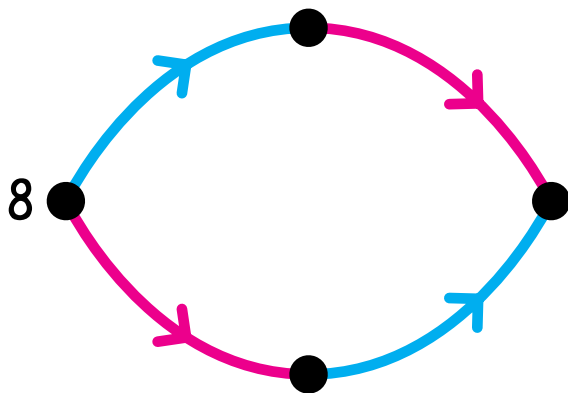
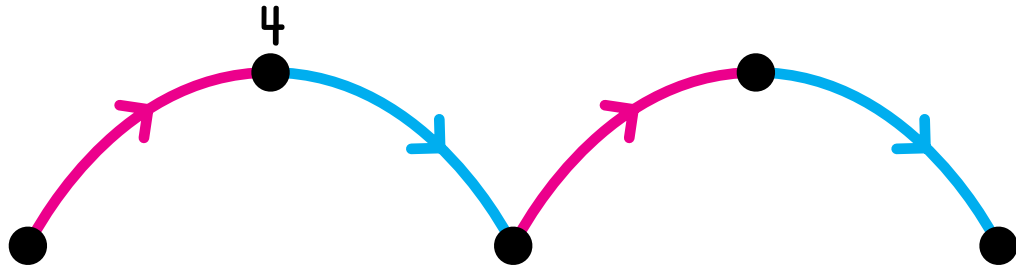
$$(7 - 3) \times 2 = \underline{\hspace{2cm}}$$

Label the dots. Draw all the possible 6x (gray) arrows.

2x

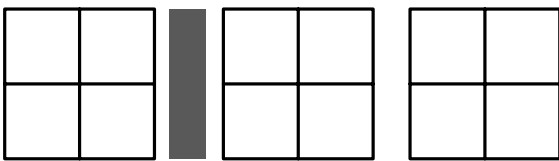
3x

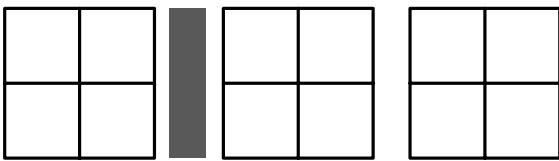
6x

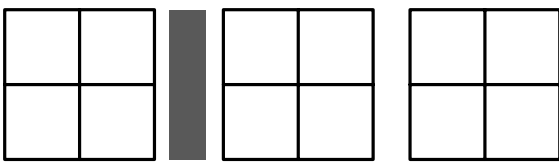


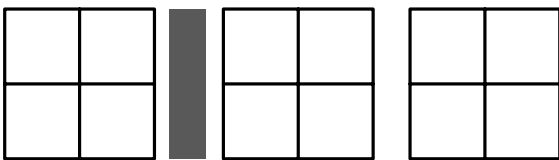
You should have six gray arrows.

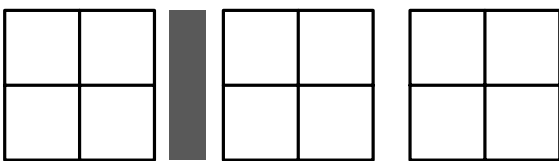
Put these numbers on the Minicomputer.

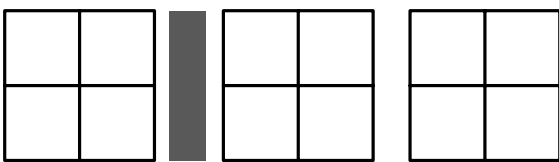
$4.05 =$  

$8.60 =$  

$0.79 =$  

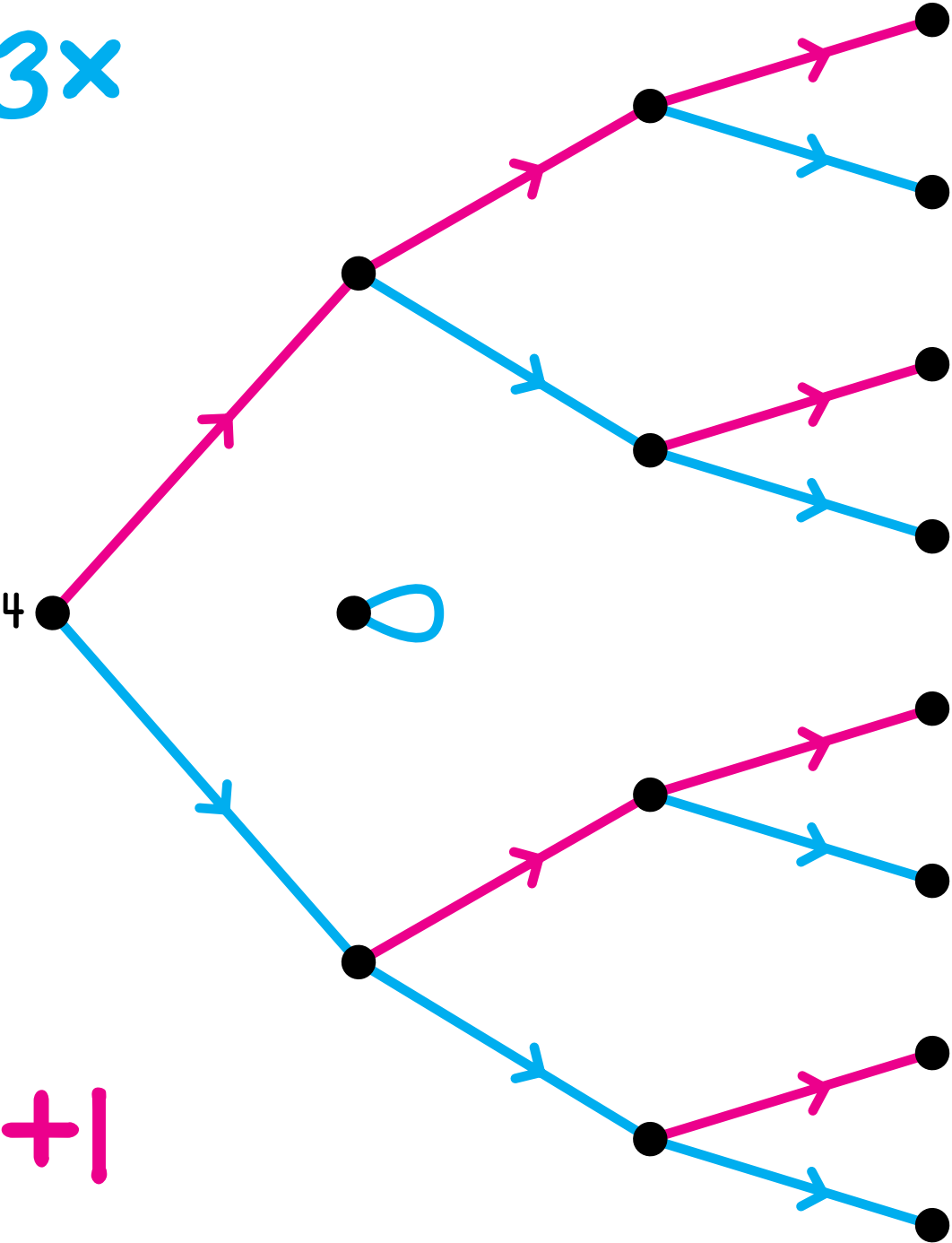
$3.00 =$  

$2.0 =$  

$1.4 =$  

Label the dots.

3x

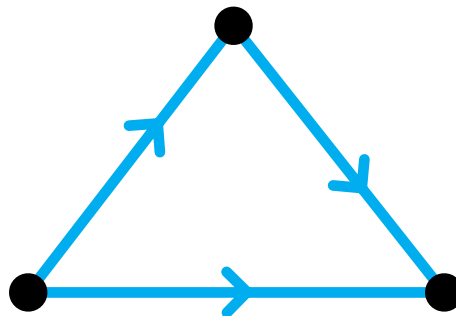
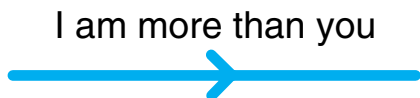


Put these numbers in the arrow picture.

225

252

522



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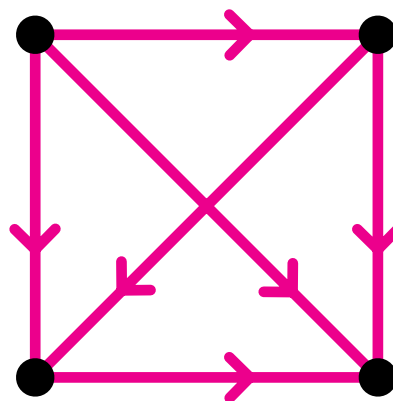
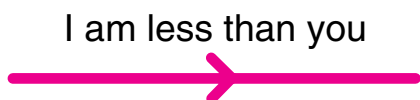
Put these numbers in the arrow picture.

390

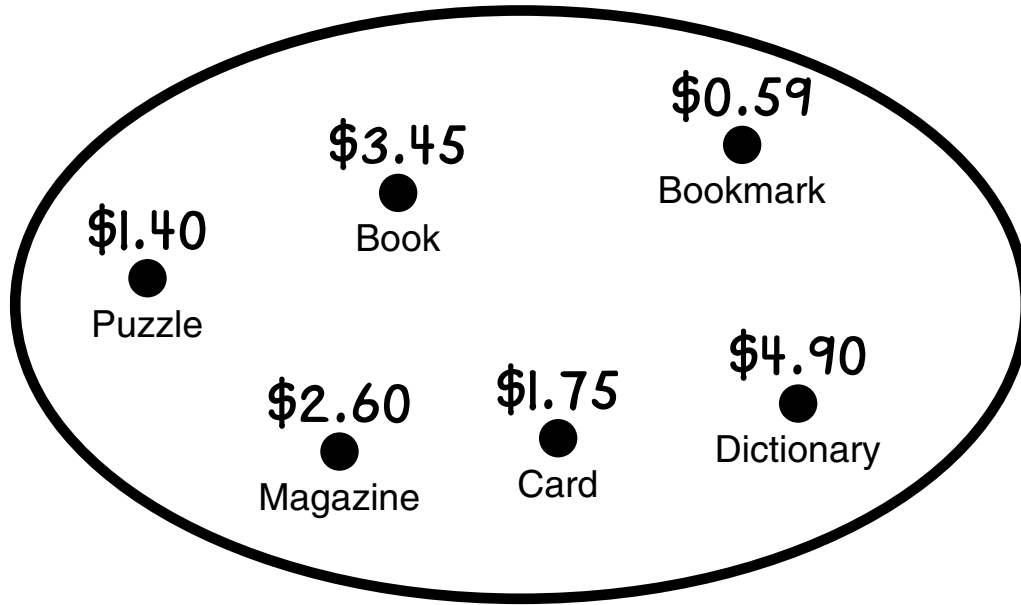
930

309

903



These are the prices of some items in a book store.



Which item is the most expensive? \_\_\_\_\_

Which item is the least expensive? \_\_\_\_\_

Erik bought a magazine and a card. How much did he spend? \_\_\_\_\_

He gave the clerk \$5.00. How much change did he receive? \_\_\_\_\_

Maia bought three items for less than \$5.00.

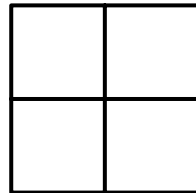
What could she have bought? \_\_\_\_\_

Lee bought two items and spent more than \$5.00.

What could he have bought? \_\_\_\_\_

Jack is a secret number.

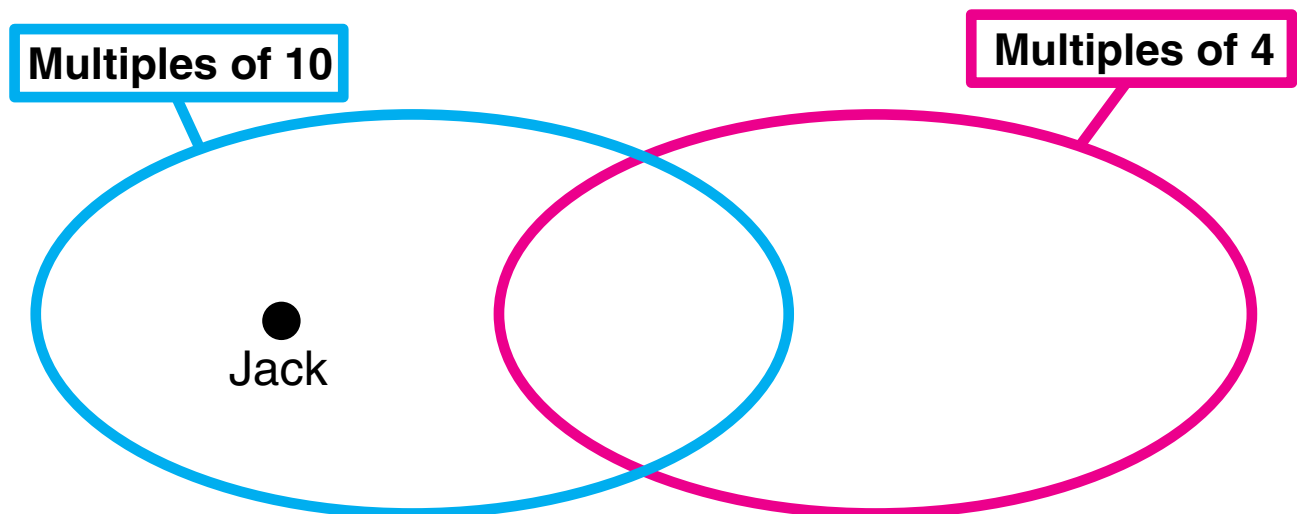
Jack can be put on this Minicomputer with five regular checkers all on the same square.



Jack could be \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_.

---

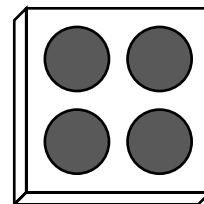
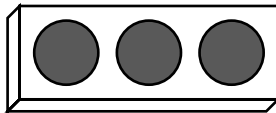
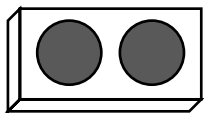
Jack is in this string picture.



Who is Jack? \_\_\_\_\_



Suzanne wants to serve cupcakes at her club meeting. She needs exactly 15 cupcakes. The store has cupcakes in packages of two, three, or four.

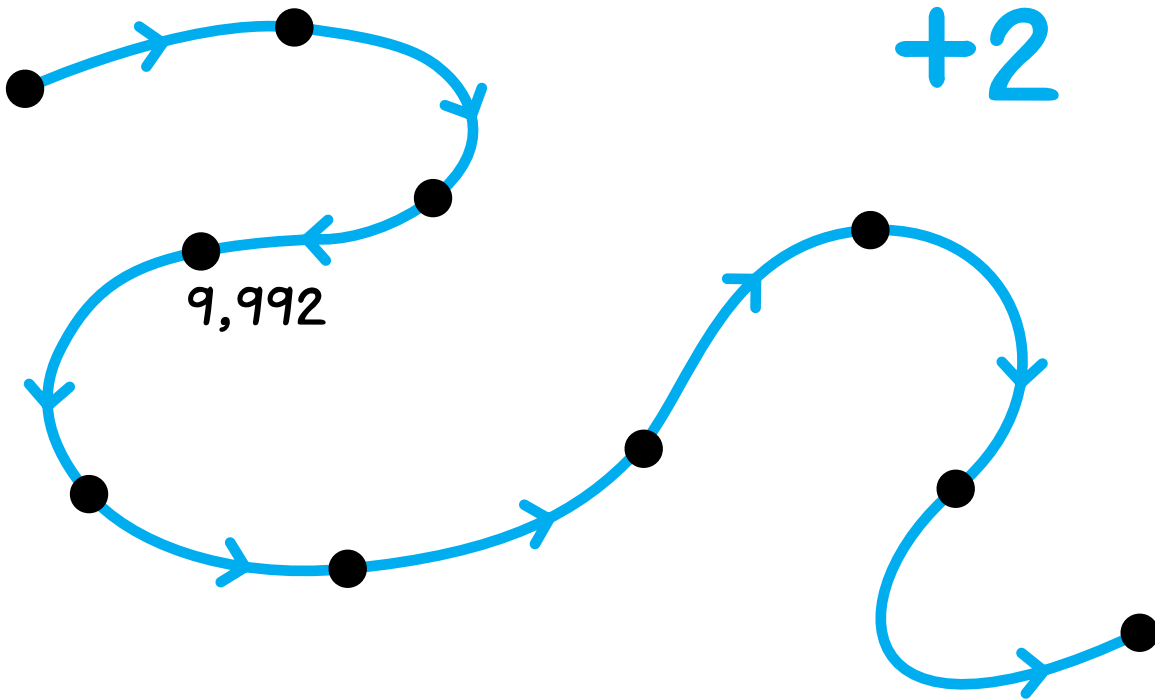


What should Suzanne buy?

Show your solution in this box.

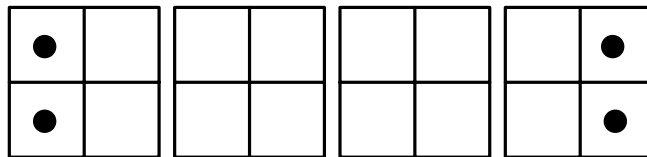
Can you find a different solution? Show it here.

Laty is a secret number.  
 Laty is in this arrow picture.



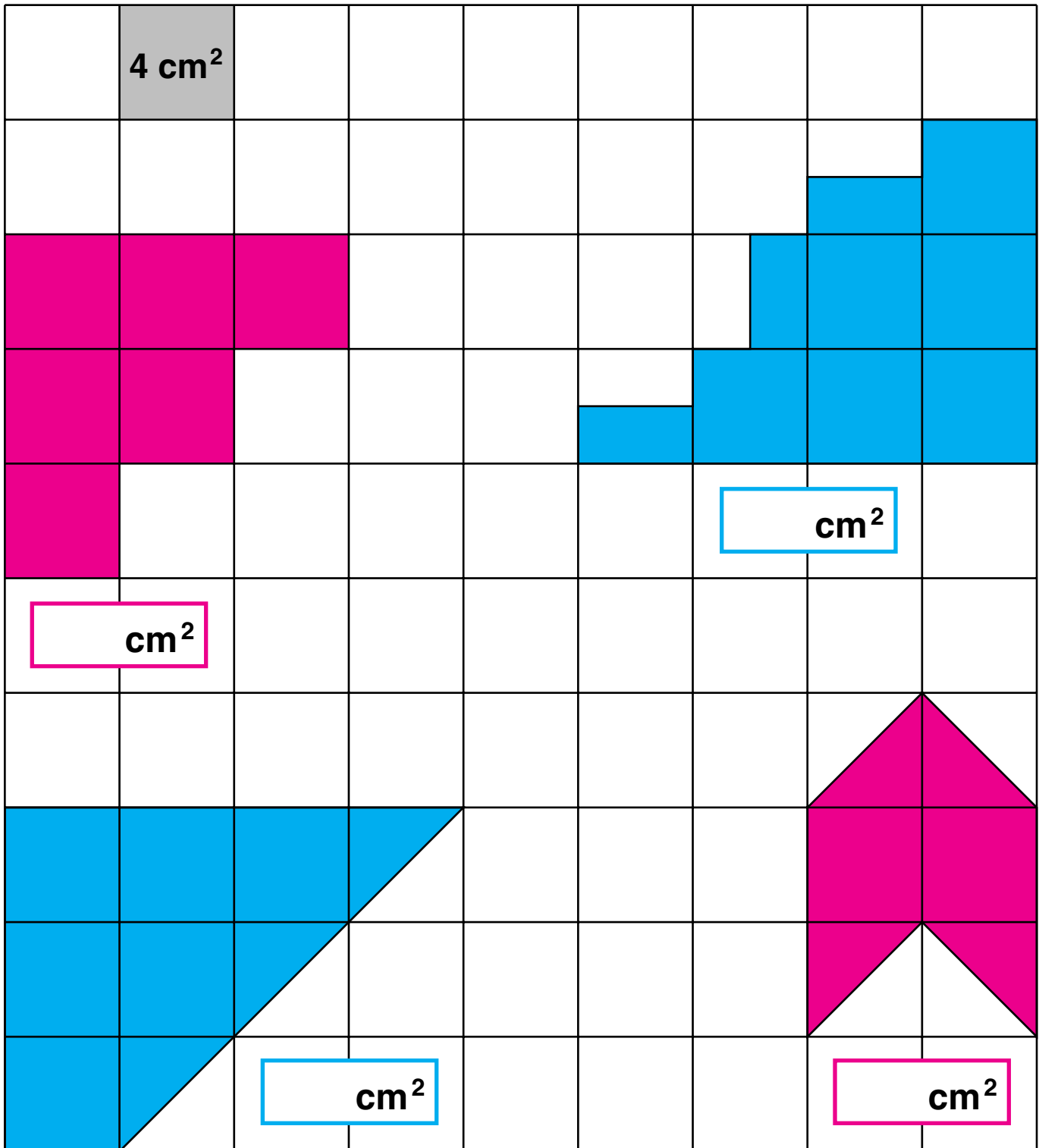

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Laty can be put on this Minicomputer by moving exactly one checker.

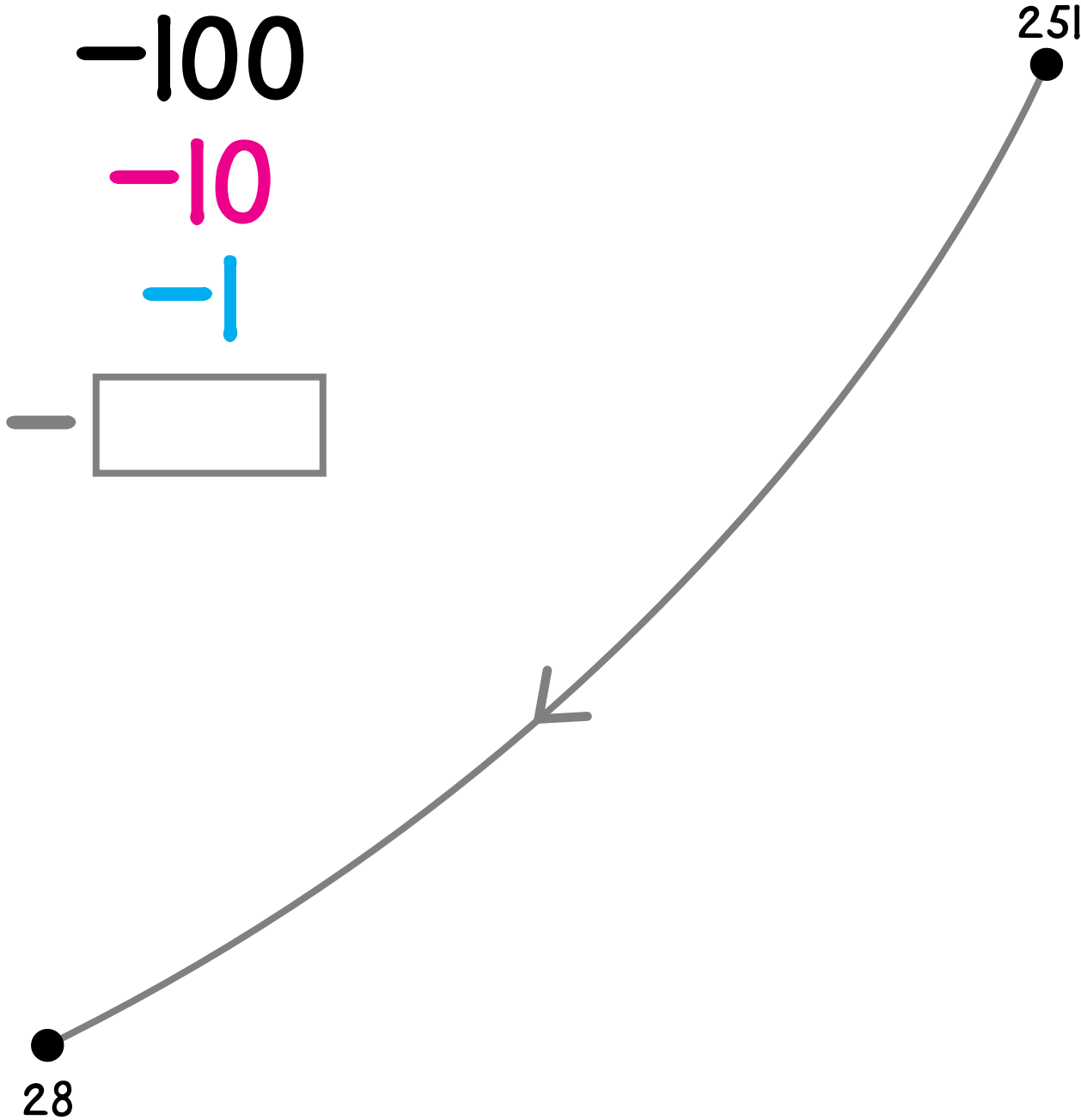


Who is Laty? \_\_\_\_\_

Find the area of each shape.



Build an arrow road from 251 to 28 using  $-100$ ,  $-10$ , and  $-1$  arrows. Fill in the box for the gray arrow.



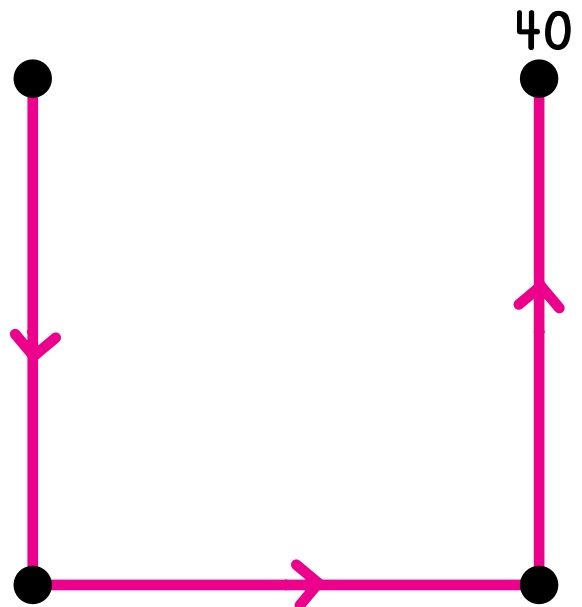
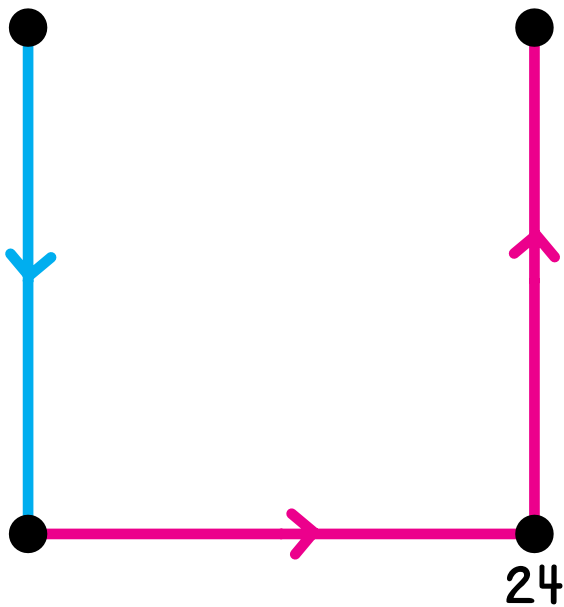
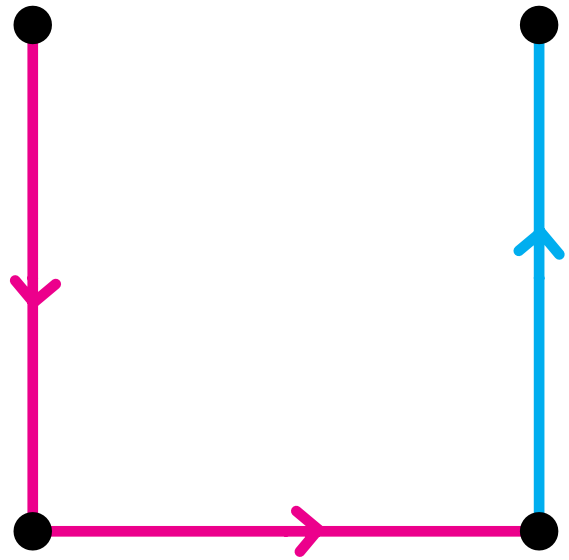
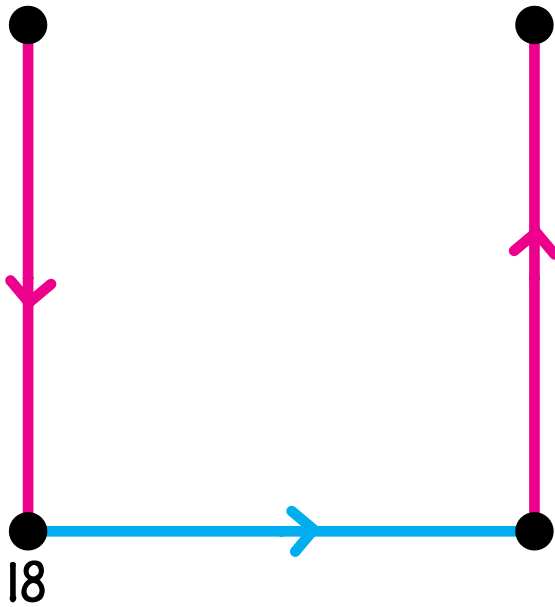
Write a calculation shown by the gray arrow.

Label the dots. Draw all the possible 4x (gray) arrows.

$2 \times$

$+1$

$4 \times$



You should have four gray arrows.

Complete.

$$\begin{array}{r} 27 \\ + \\ \hline 60 \end{array}$$

$$\begin{array}{r} 154 \\ + \\ \hline 191 \end{array}$$

$$\begin{array}{r} 408 \\ + \\ \hline 600 \end{array}$$

$$\begin{array}{r} 3,275 \\ + \\ \hline 4,000 \end{array}$$

Put these numbers on the Minicomputer using exactly three checkers (positive or negative).

$$35 = \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array}$$

$$97 = \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array}$$

$$\hat{17} = \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array}$$

$$56 = \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array}$$

$$132 = \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array}$$

$$696 = \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array}$$

Build an arrow road from 0 to 312 using 10x and +1 arrows.  
Use as few arrows as possible.

0  
●

10x  
+1

●  
312