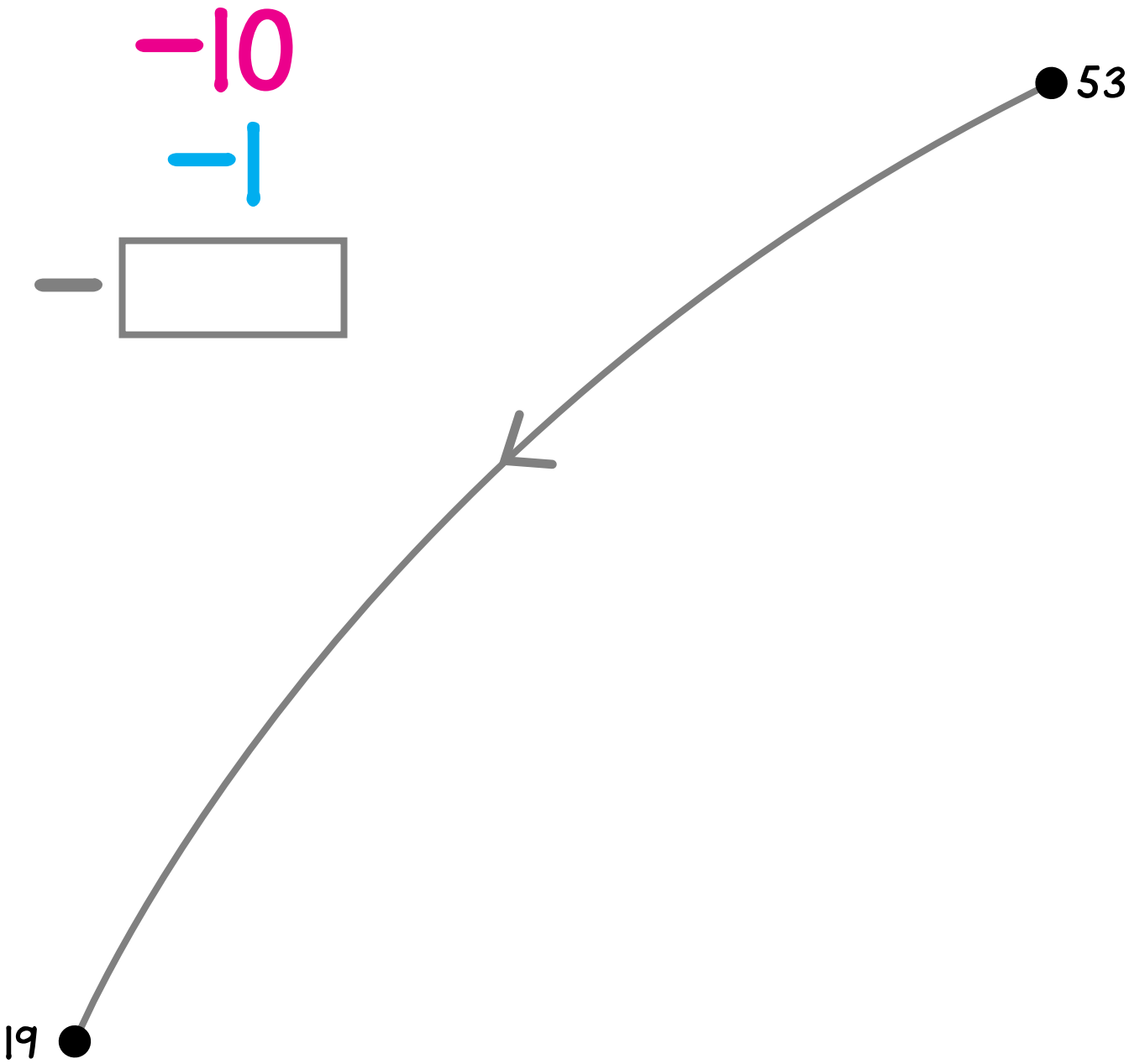
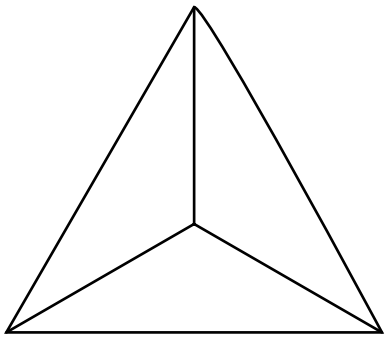
Galaxy of Problems #3

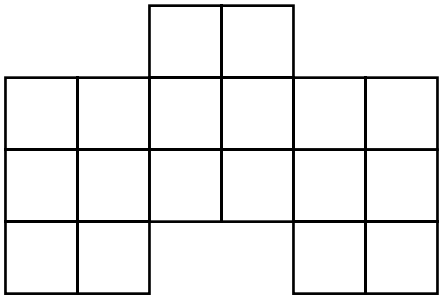
Build an arrow road from 53 to 19 using –10 and –1 arrows.
Fill in the box for the gray arrow.

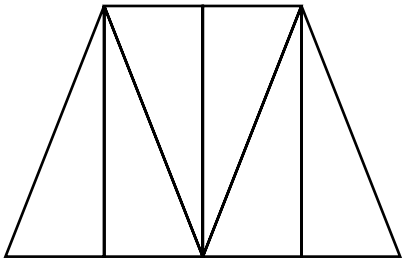


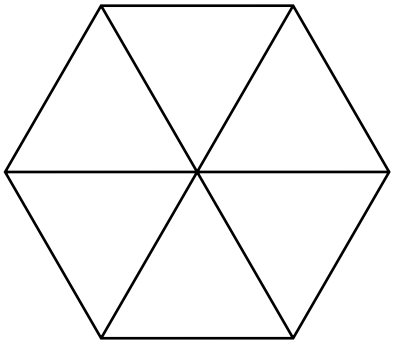
Write a calculation shown by the gray arrow.

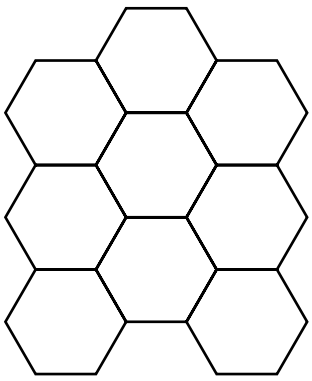
Color one-third of each shape.

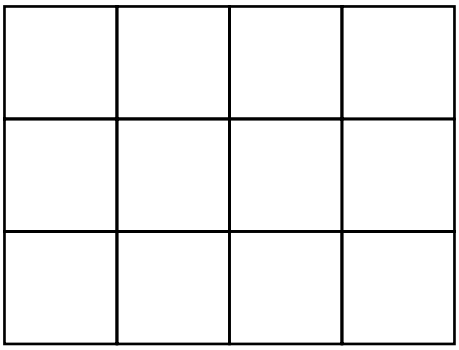




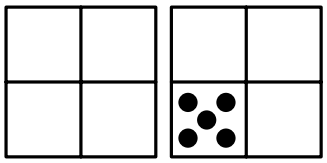


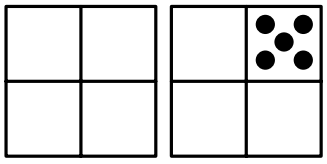


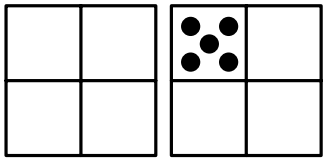


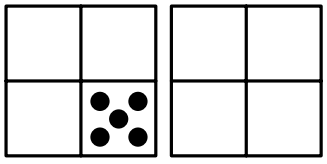


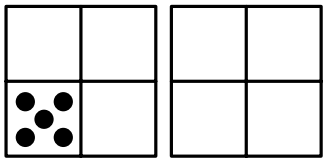
Complete.

 = ____

 = ____

 = ____

 = ____

 = ____

$5 \times 2 =$ ____

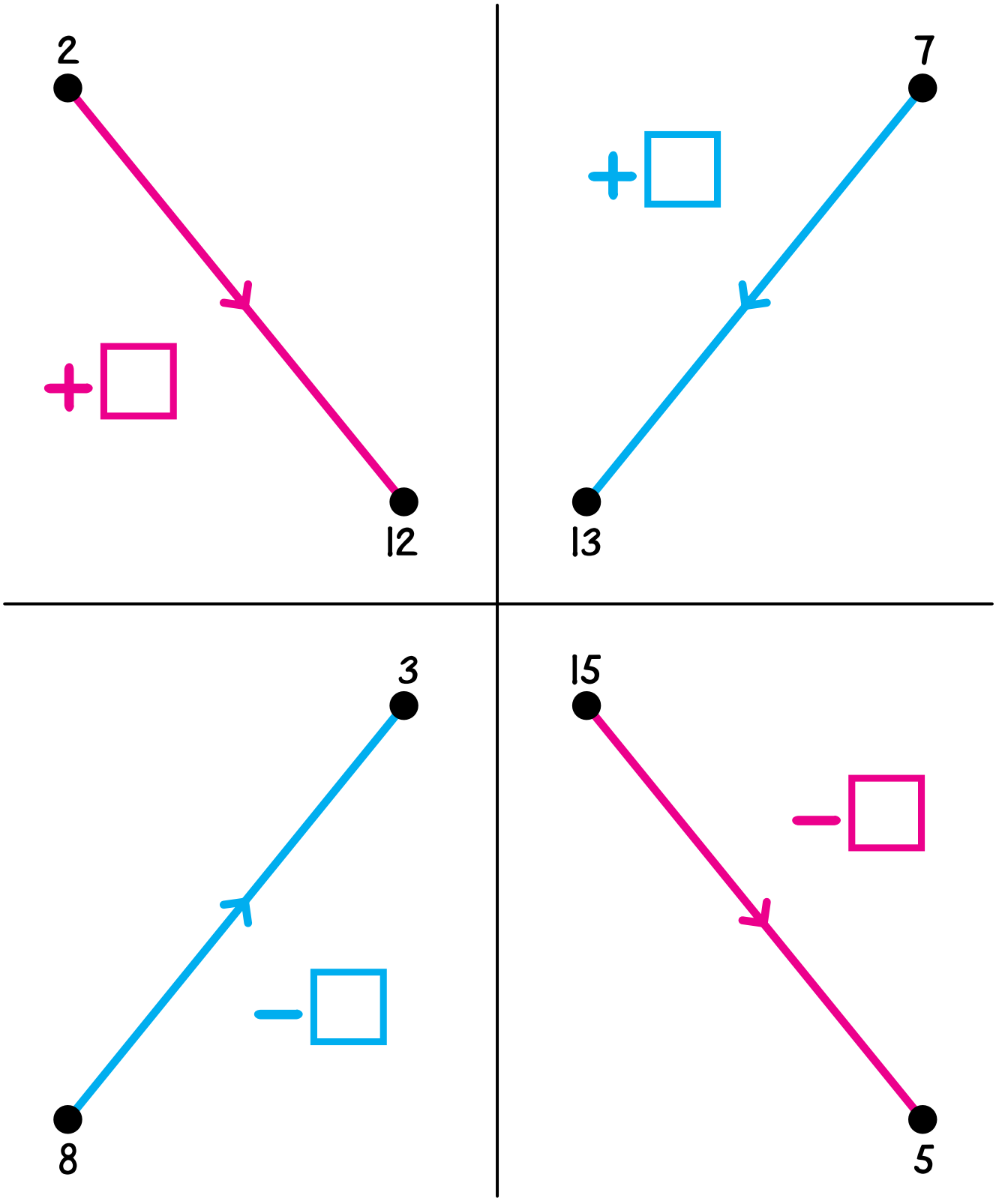
$5 \times 4 =$ ____

$5 \times 8 =$ ____

$5 \times 10 =$ ____

$5 \times 20 =$ ____

Fill in the box for each arrow.



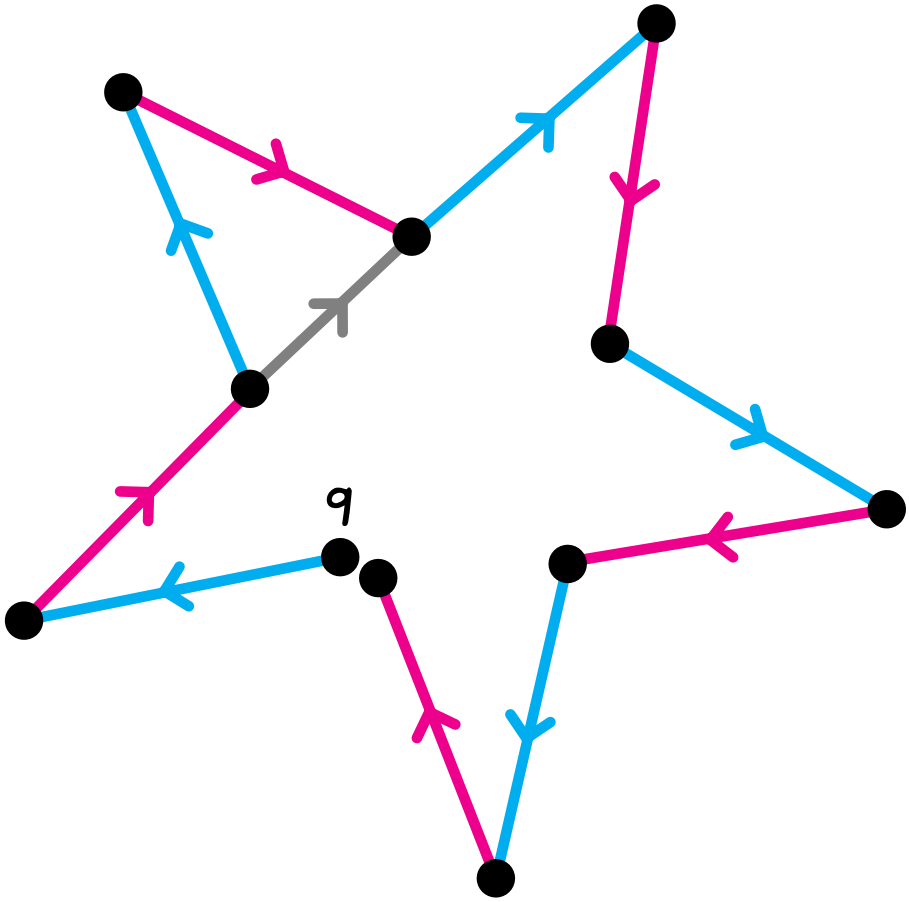
Complete.

$10 - 5 = \square$	$5 - 4 = \square$
$9 - 4 = \square$	$6 - 4 = \square$
$8 - \square = 5$	$7 - \square = 3$
$\square - 2 = 5$	$\square - 4 = 4$

$15 - 5 = \square$	$12 - 2 = \square$
$15 - 6 = \square$	$14 - 4 = \square$
$\square - 7 = 8$	$16 - \square = 10$
$15 - \square = 7$	$\square - 8 = 10$

Label the dots. Draw all the missing +4 arrows in gray.

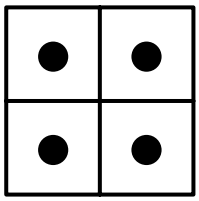
+5 −1 +4



There should be nine gray arrows.

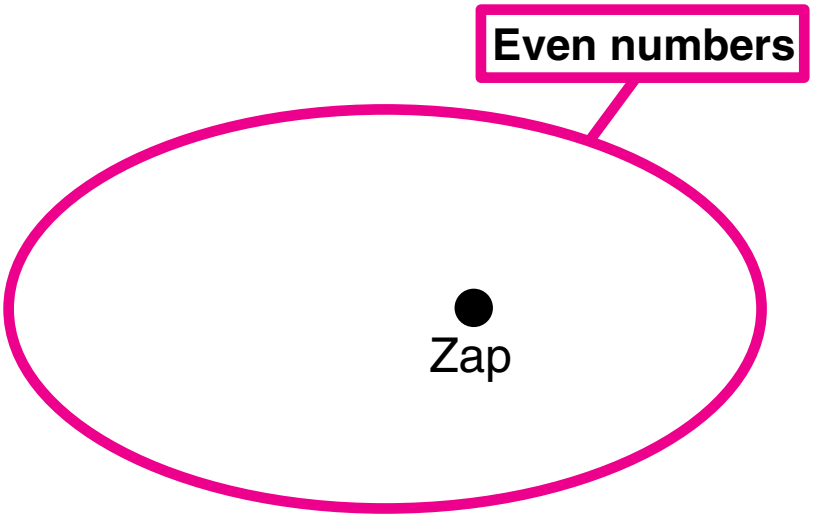
Zap is a secret number.

Zap can be put on this Minicomputer by removing one checker.



Zap could be _____, _____, _____, or _____.

Zap is in this string picture.



Who is Zap? _____

Share 38 cards fairly between Tony and Juan.

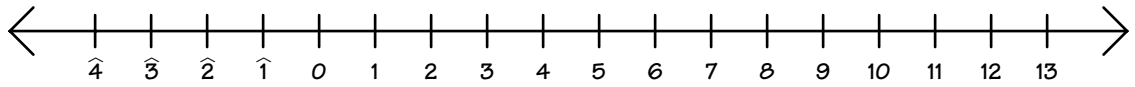
For Tony	For Juan

Write a number sentence about this sharing.

Share 42 bows fairly among Linda, Yvette, and Erin.

For Linda	For Yvette	For Erin

Write a number sentence about this sharing.

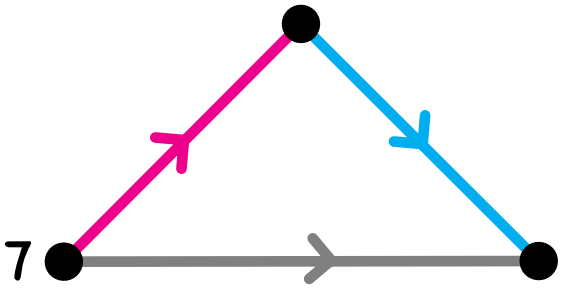


Complete.

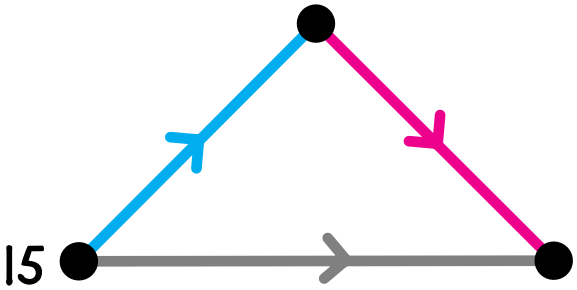
7 − 3	3 − 7	8 − 5	5 − 8	4 − 3	3 − 4
10 − 7	7 − 10	12 − 9	9 − 12	10 − 13	13 − 10
6 − 4	5 − 9	1 − 3	11 − 8	8 − 10	12 − 4

Label the dots and complete the multiplication facts.

2×

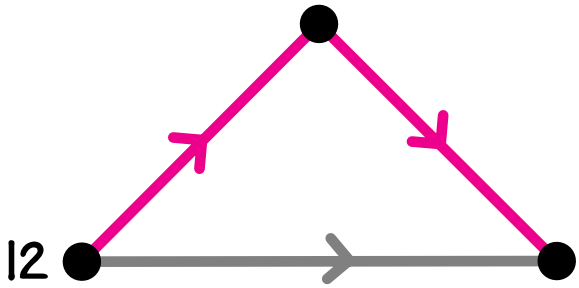


6 × 7 = _____

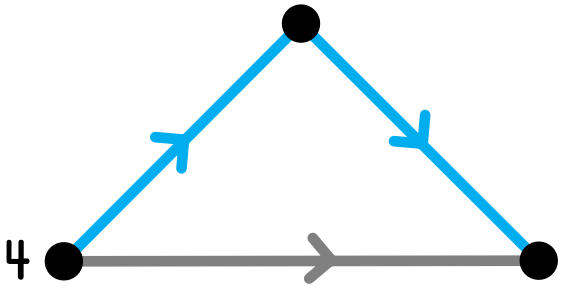


6 × 15 = _____

3×

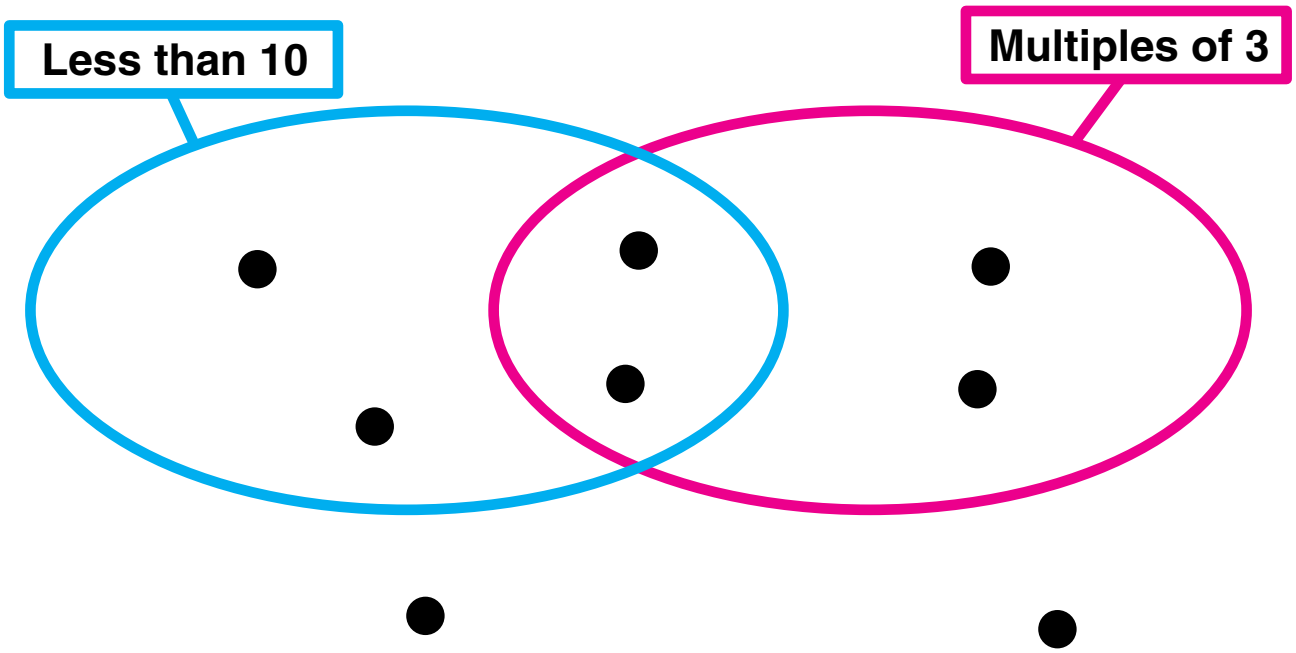


4 × 12 = _____



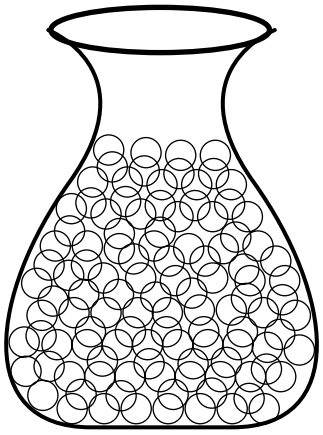
9 × 4 = _____

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



Several children gave estimates of how many pennies were in a jar. Here are their estimates.

	Estimate
Gus	**300**
Jamaal	**268**
Laura	**331**
Carly	**350**
Ivan	**275**



After counting, the children found there were exactly 316 pennies in the jar.

Who had the closest estimate? _____

How close was each child to the actual number of pennies?

Gus _____

Jamaal _____

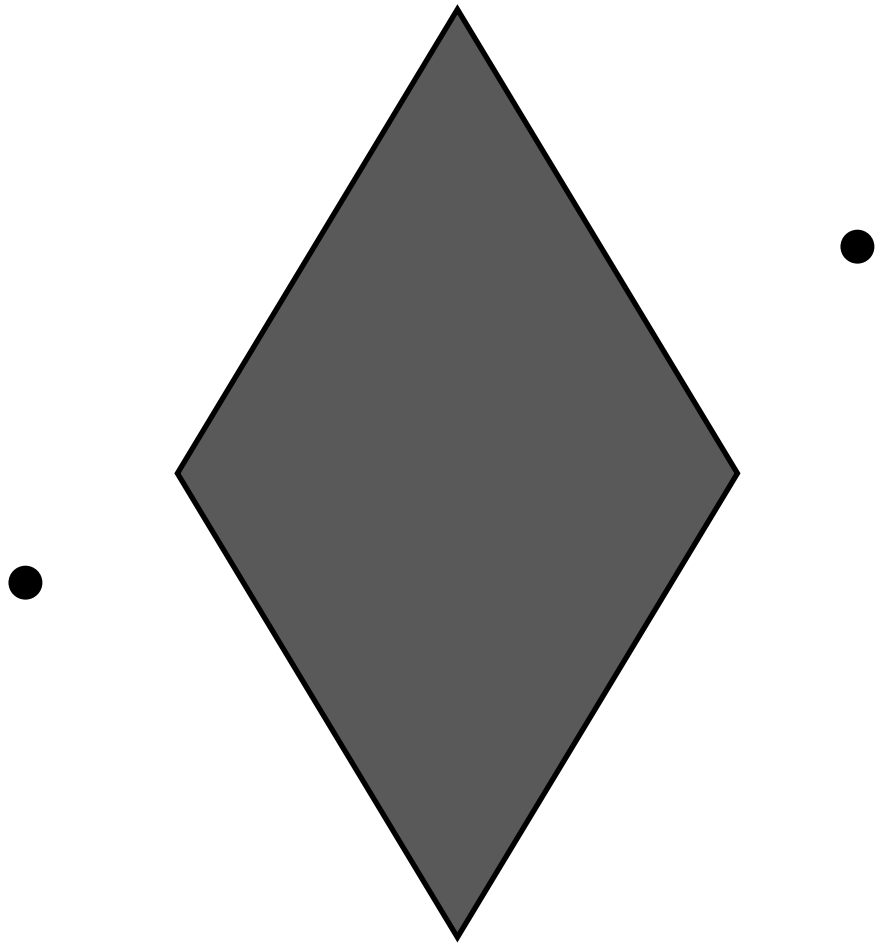
Laura _____

Carly _____

Ivan _____

Build an arrow road from 6 to 60 using 2x and +1 arrows.
Try to use as few arrows as possible.

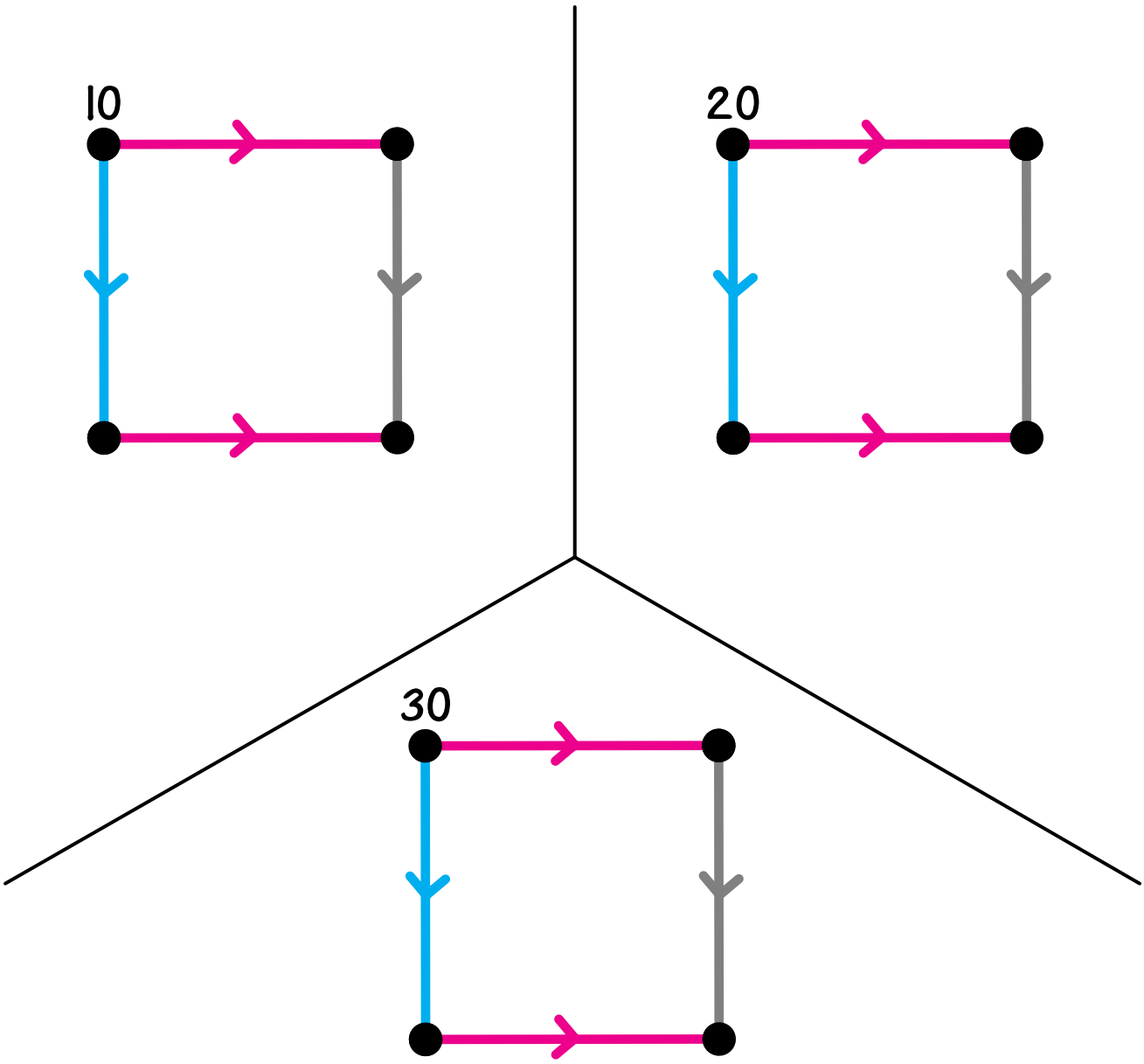
Connect the dots with a zigzag path, but do not go through the building. Try to make your zigzag path shorter than 20 cm.



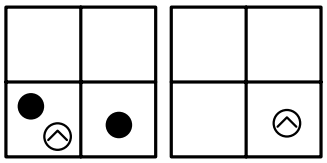
Length of zigzag path = _____ cm
Is the length of your zigzag path less than 20 cm? _____

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

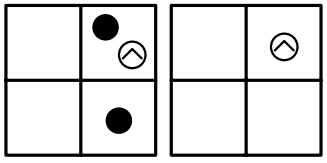
$2\times$ $+4$ $+\square$



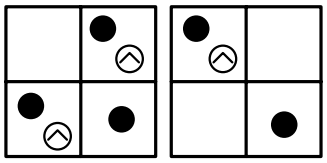
What number is on the Minicomputer?



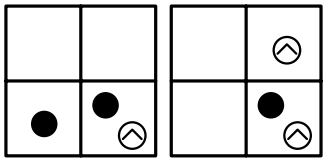
30 − 21 = ____



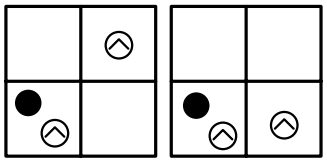
50 − 44 = ____



79 − 68 = ____



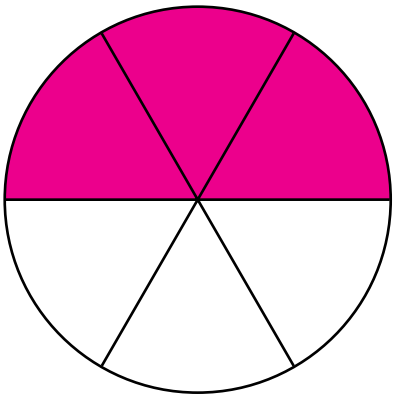
31 − 15 = ____



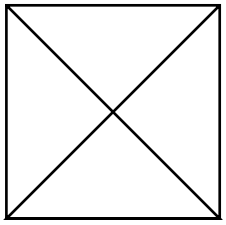
22 − 63 = ____

Color one-half of each shape red. In each case, write another name for $\frac{1}{2}$ as suggested by the picture.

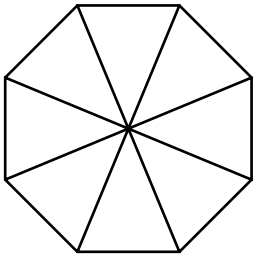
Example



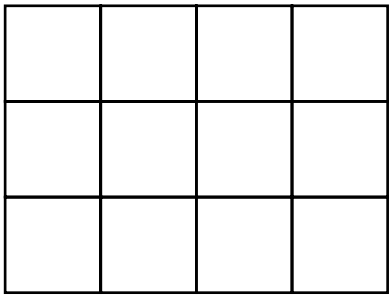
$\frac{1}{2} = \frac{3}{6}$



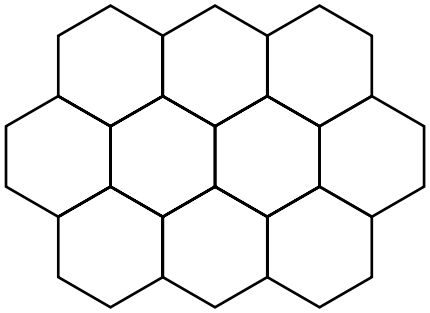
$\frac{1}{2} = \_$



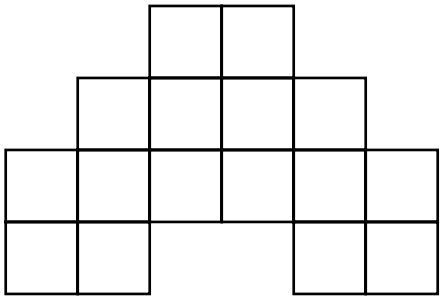
$\frac{1}{2} = \_$



$\frac{1}{2} = \_$



$\frac{1}{2} = \_$



$\frac{1}{2} = \_$

A gremlin wrote too many numbers in these problems. Cross out one number in each problem to make the addition correct.

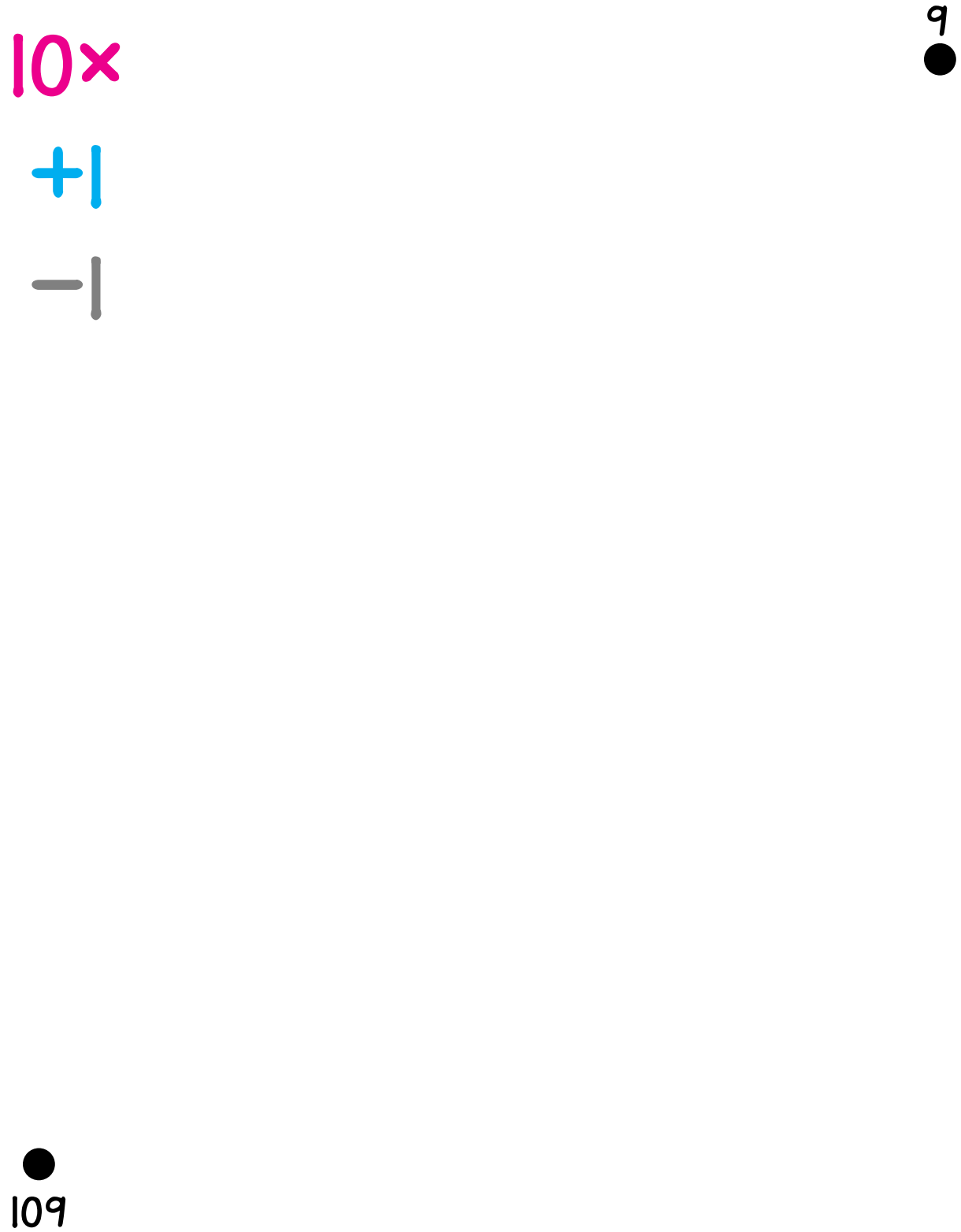
$$63 + 78 + 43 = 121$$

$$84 + 64 + 56 = 140$$

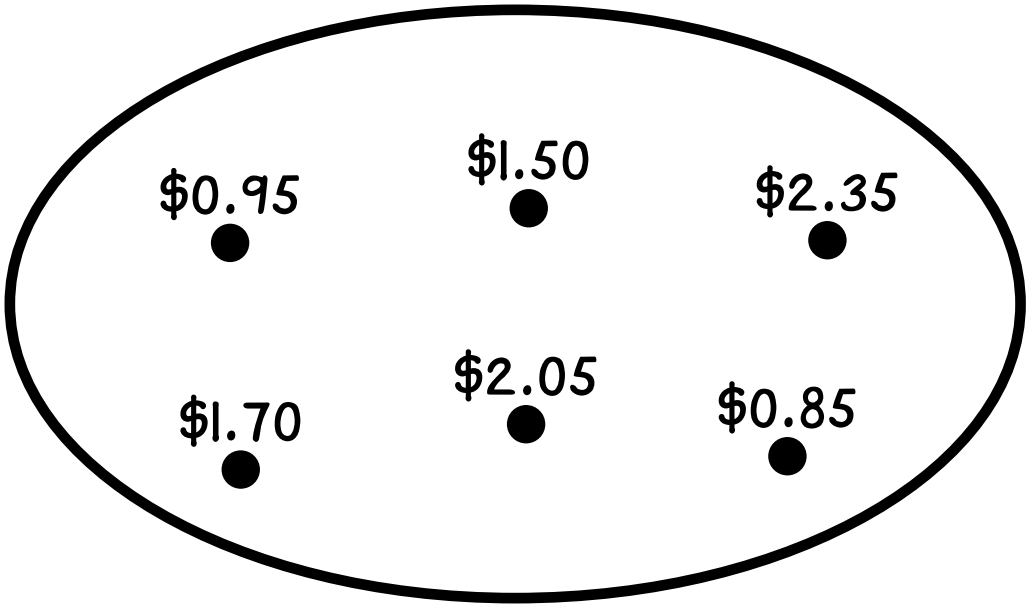
$$35 + 47 + 45 = 82$$

$$\begin{array}{r} 184 \\ 435 \\ +245 \\ \hline 429 \end{array} \qquad \begin{array}{r} 246 \\ 236 \\ +326 \\ \hline 562 \end{array} \qquad \begin{array}{r} 527 \\ 487 \\ +387 \\ \hline 914 \end{array}$$

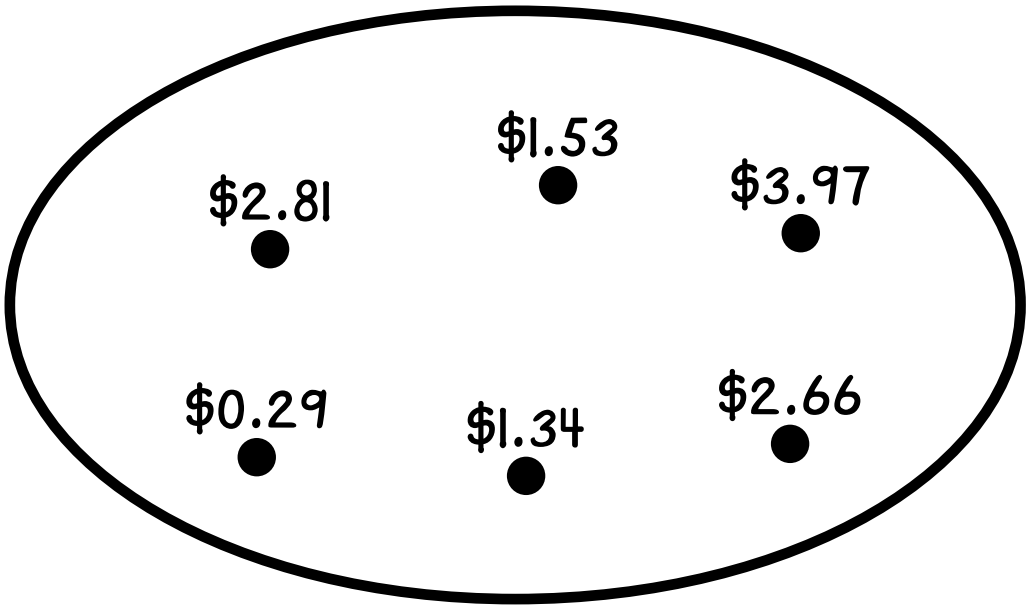
Build an arrow road from 9 to 109. Try to use as few arrows as possible.



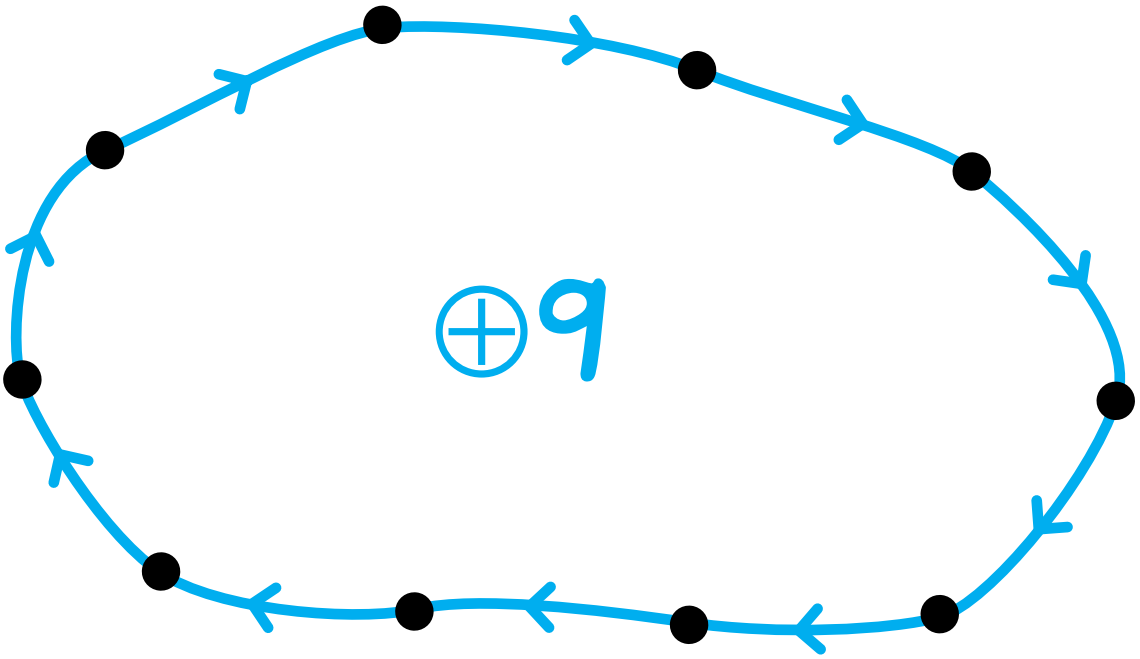
Dana buys two models and spends exactly $3.
Draw one string around the prices of these two models.



Alex buys two kits and spends exactly $4.
Draw one string around the prices of these two kits.



Ten number friends—0, 1, 2, 3, 4, 5, 6, 7, 8, 9—are playing the ⊕9 game. Put these numbers in the picture.



Complete these number sentences about addition with the ten number friends.

$$6 \oplus 6 = \square$$

$$\square \oplus 8 = 3$$

$$9 \oplus \square = 4$$

$$2 \oplus 4 \oplus 6 \oplus 8 = \square$$

$$5 \oplus \square \oplus 9 = 1$$

Jon wants to weigh his dog Trapper, but Trapper won't stand still on the scale. Jon gets on the scale holding Trapper. Together they weigh 192 pounds. Jon weighs 118 pounds. How much does Trapper weigh? _____

Ellen has 50 jellybeans. She gives 5 jellybeans to each of her 3 friends. How many jellybeans does Ellen have left? _____

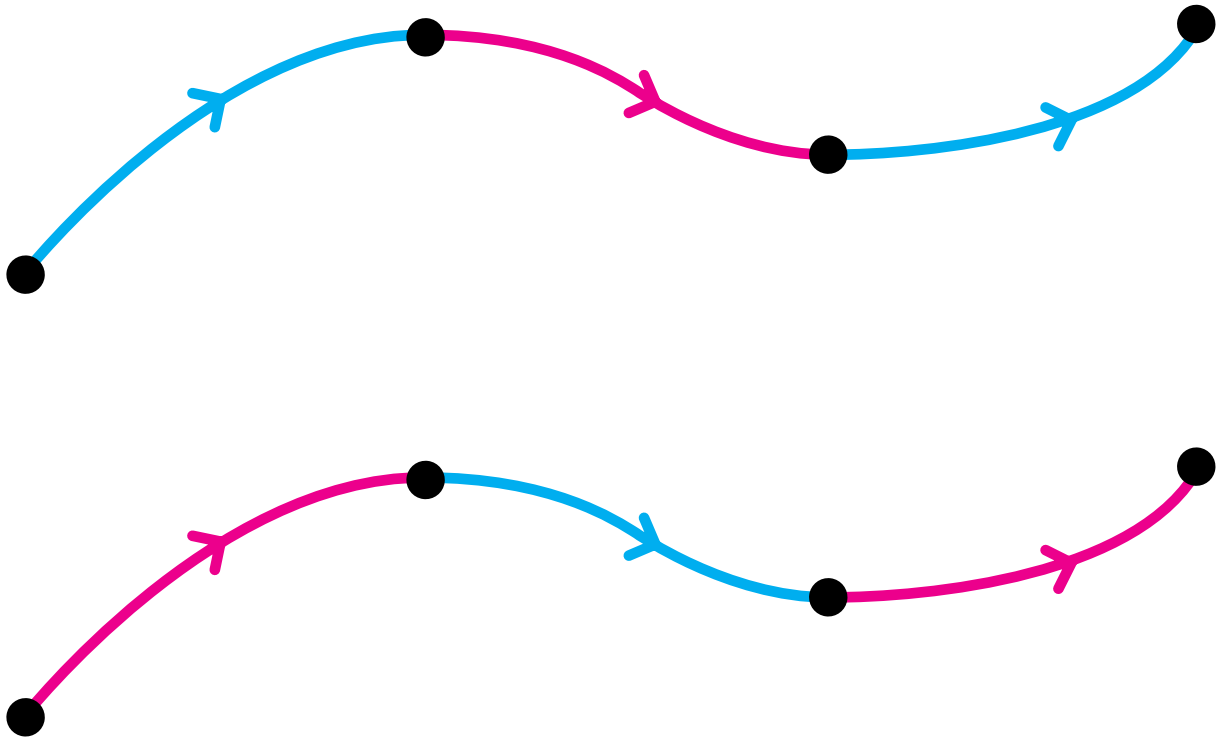
Will works for seven hours. Each hour he earns $5.00 and each hour he spends $1.00. How much money does he get? _____

Alice went shopping. She spent half her money on lunch. Then she bought a hat for $3.00. Now she has $2.00. How much did Alice have to start with? _____

Put these numbers in this arrow picture.

35 44 53 70 79 106 115 158

+9 2×



Put parentheses in these number sentences to make them TRUE.

$3 + 5 \times 4 = 23$

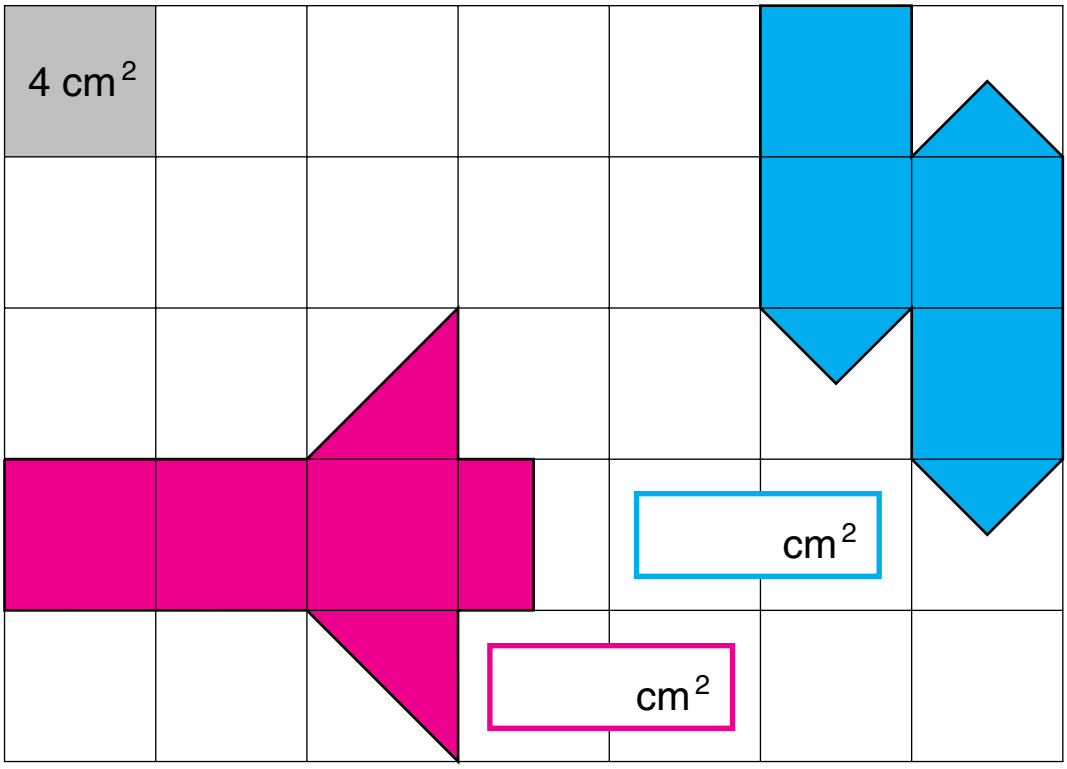
$3 \times 5 - 4 = 11$

$3 \times 5 + 4 = 19$

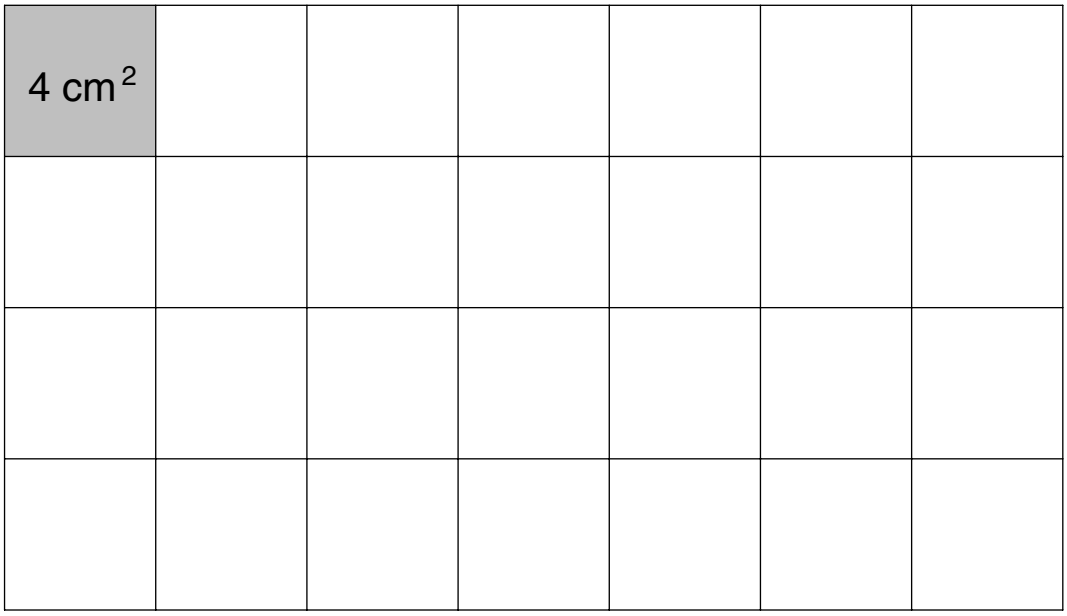
$3 + 5 \times 4 = 32$

$3 \times 4 + 5 = 27$

Find the area of each shape.

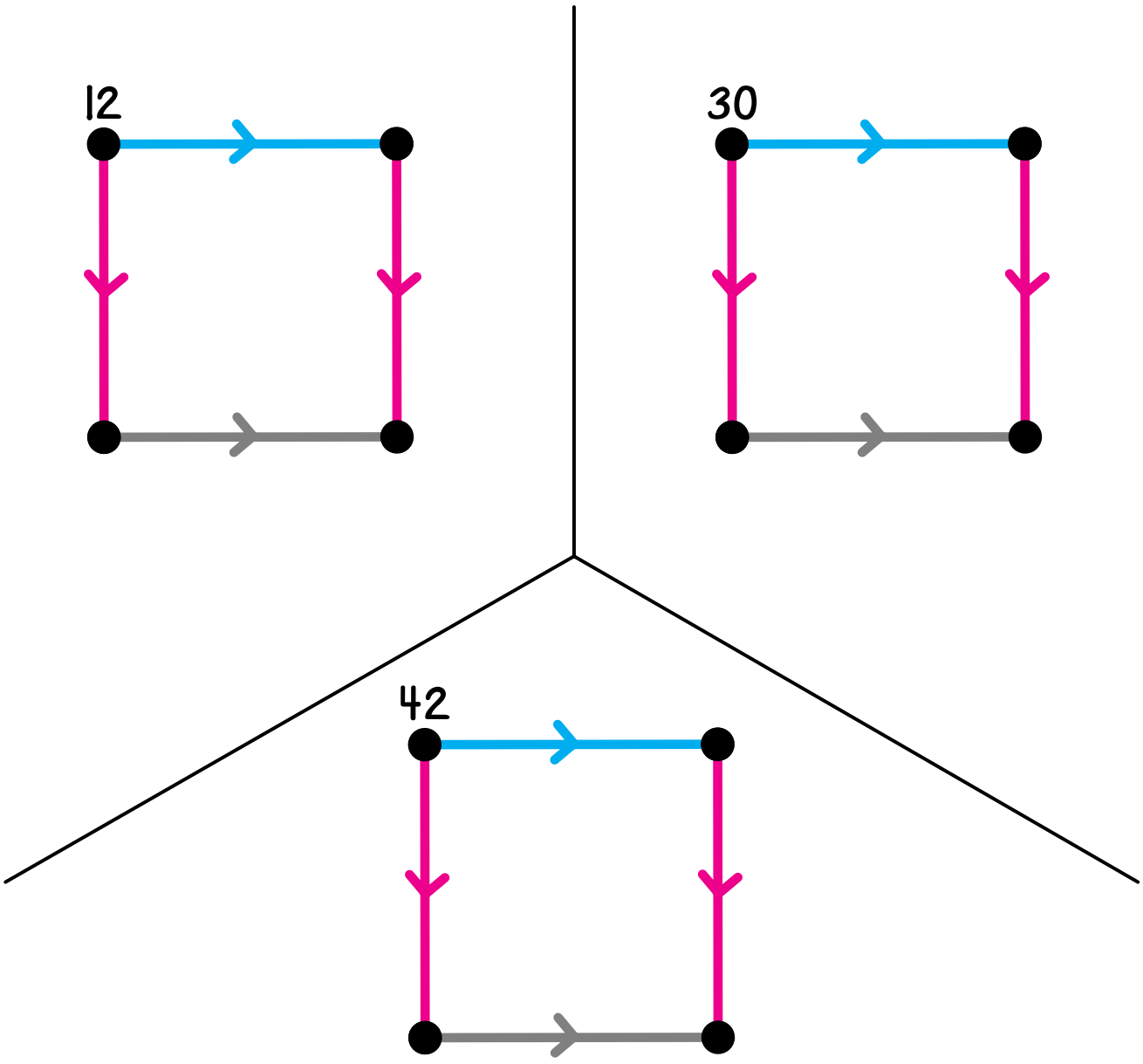


Color a shape that has area 21 cm 2.



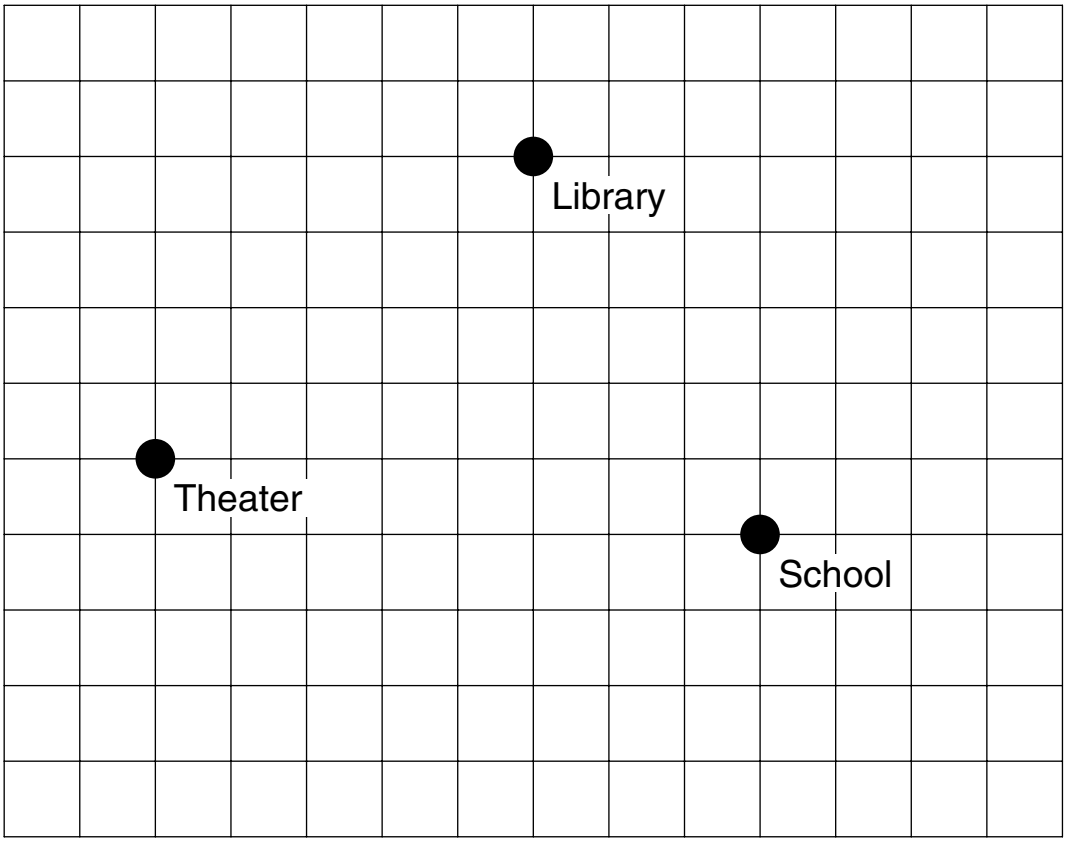
Label the dots. Fill in the box for the gray arrows.

$\frac{1}{2}\times$ $+10$ $+\square$

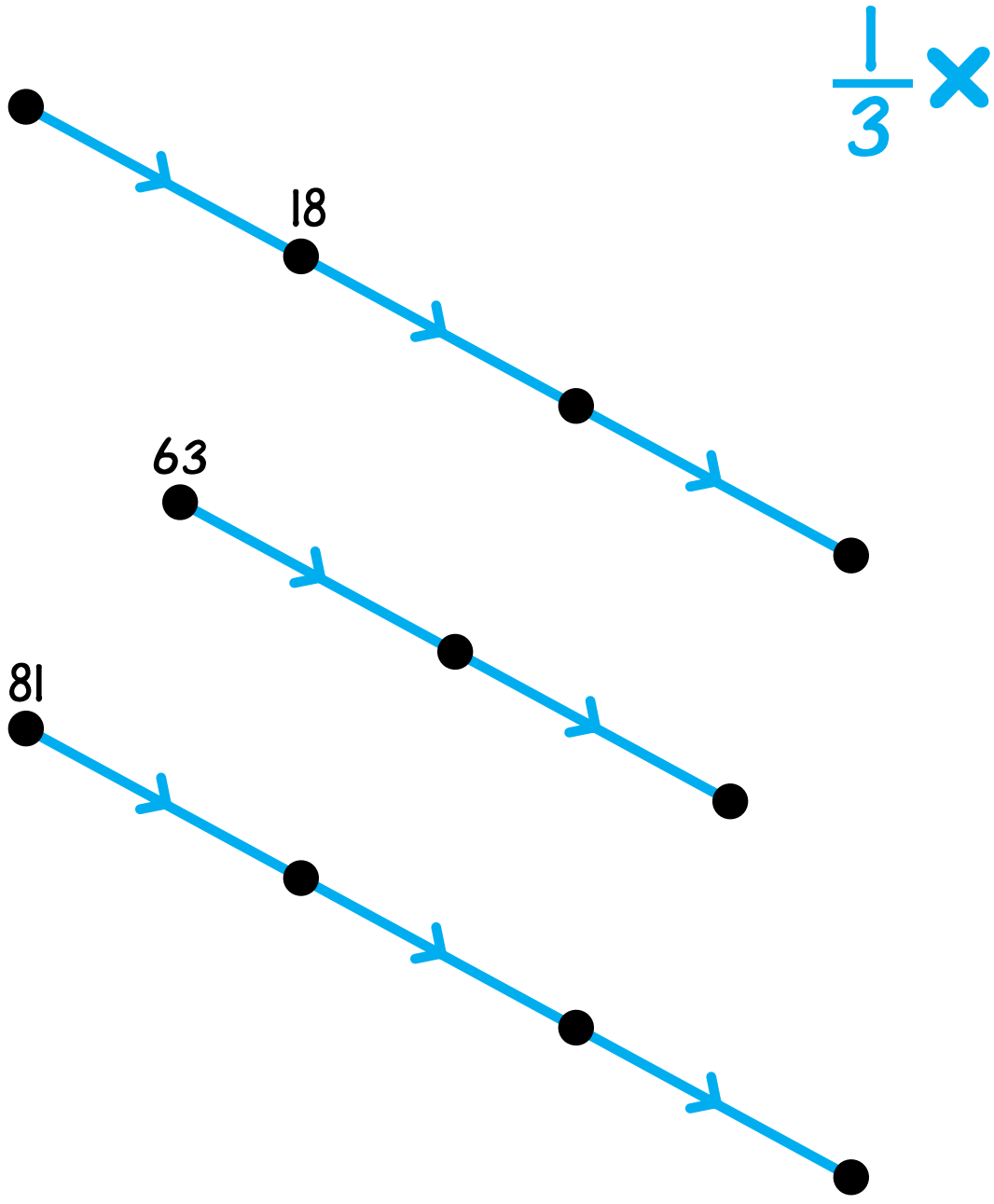


Use the clues to find Lou's house. Write Lou's name next to a dot for his house.

Clue 1	Lou lives seven blocks (taxi-distance) from school.
Clue 2	Lou lives four blocks (taxi-distance) from the theater.
Clue 3	Lou lives closer to the library than to school.



Label the dots.



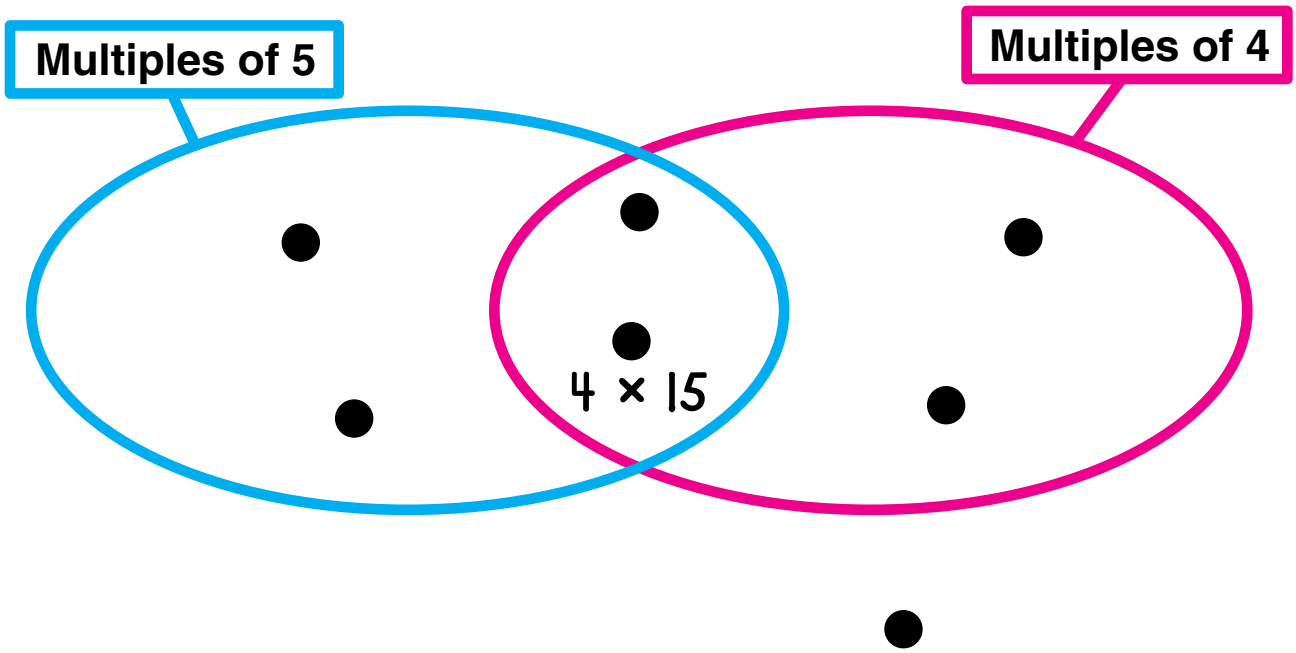
Complete.

$\frac{1}{3} \times 66 =$ _____ $\frac{1}{3} \times 45 =$ _____ $\frac{1}{3} \times 90 =$ _____

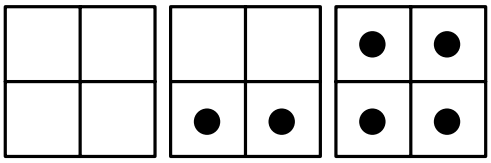
$66 \div 3 =$ _____ $45 \div 3 =$ _____ $90 \div 3 =$ _____

Put these numbers in the string picture.

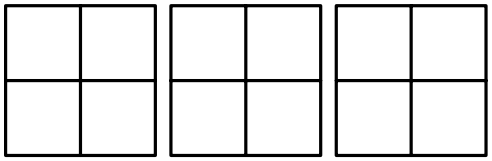
$\widehat{15}$	4×9	2×11
4×21	5×13	4×35

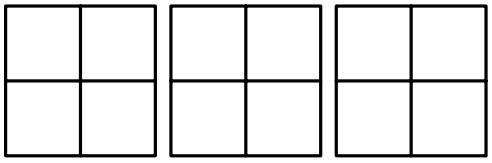


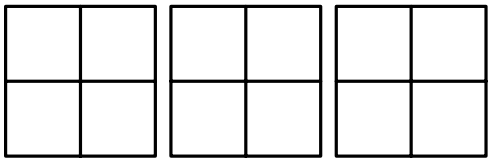
What number is on the Minicomputer?

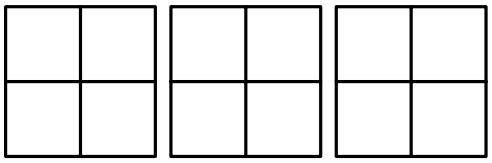
 = _____

Put these numbers on the Minicomputer by moving exactly one of these checkers.

46 = 

42 = 

65 = 

26 = 

The red string is for one of these:

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

The blue string is for one of these:

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

Label the strings.