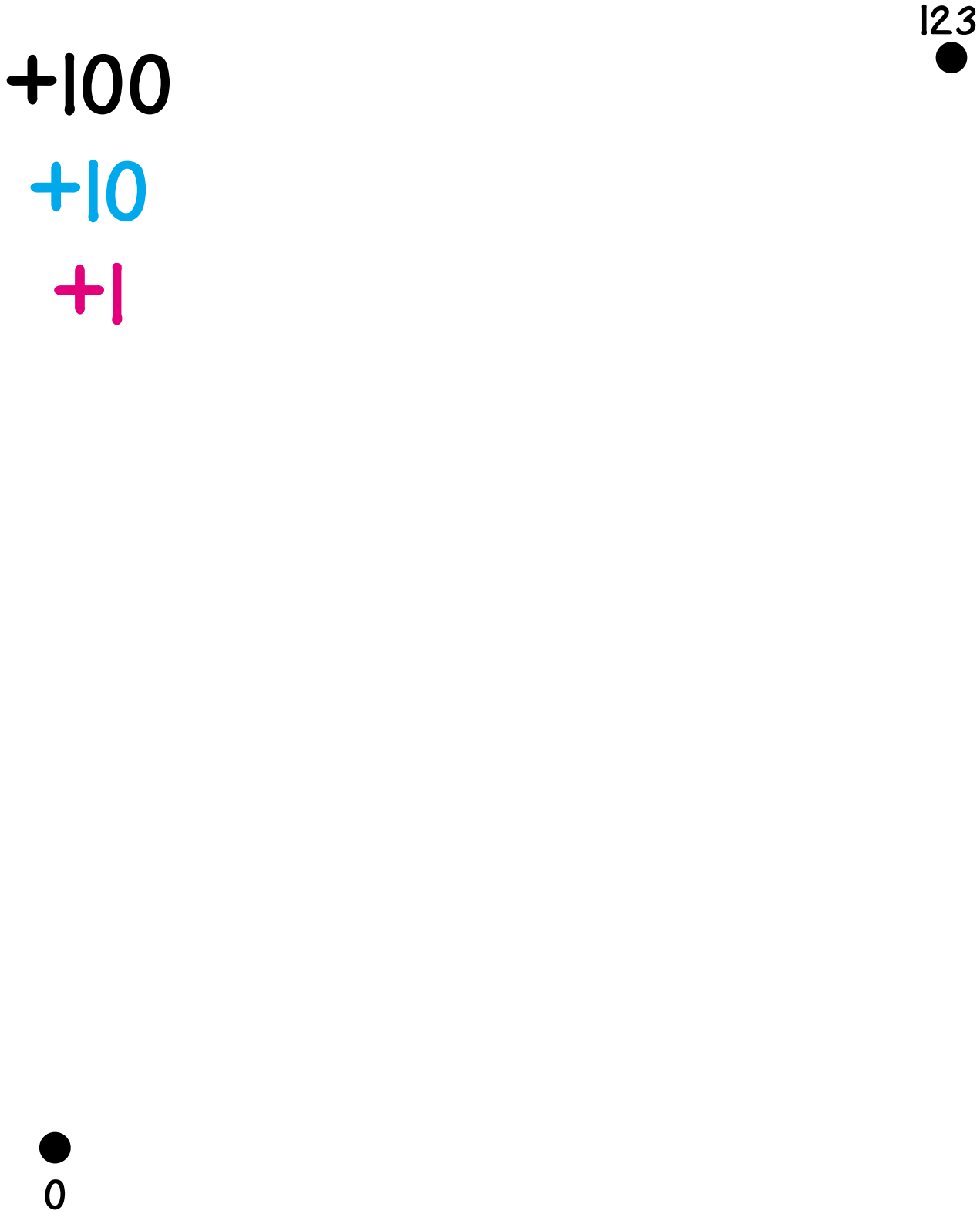
Galaxy of Problems #2

Build an arrow road from 0 to 123 using +100, +10, and +1 arrows.



Complete this addition table.

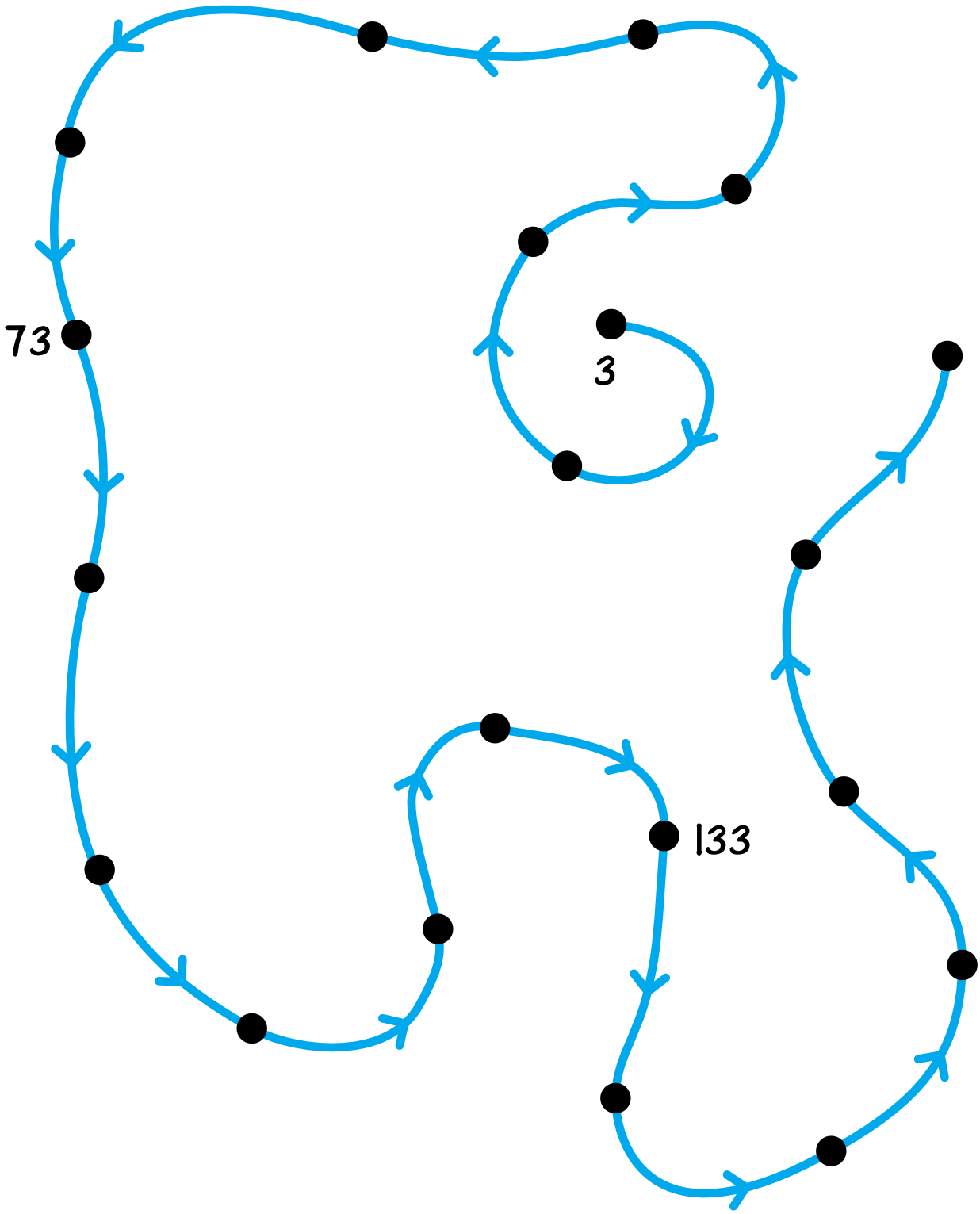
+	10	20	30	40
10				
9				
18				

Complete this subtraction table.

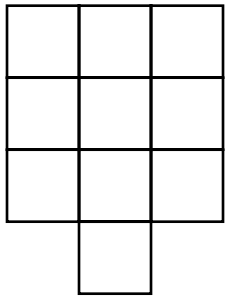
−	7	10	5	6
11				
15				

Label the dots.

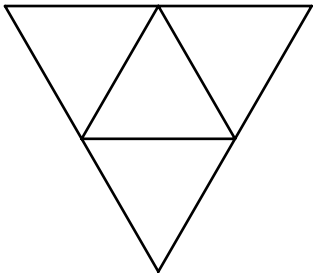
+10



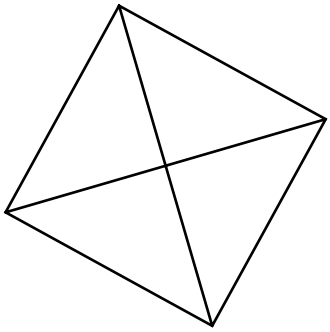
Color one-half of each shape red.



$\frac{1}{2}$

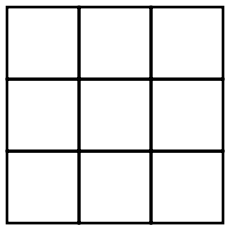


$\frac{1}{2}$

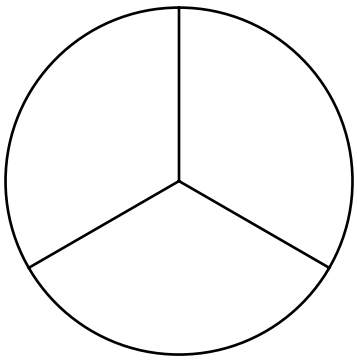


$\frac{1}{2}$

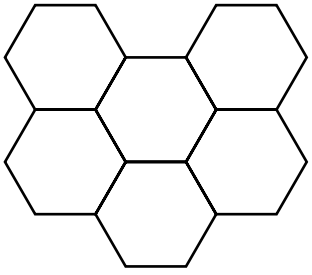
Color one-third of each shape blue.



$\frac{1}{3}$

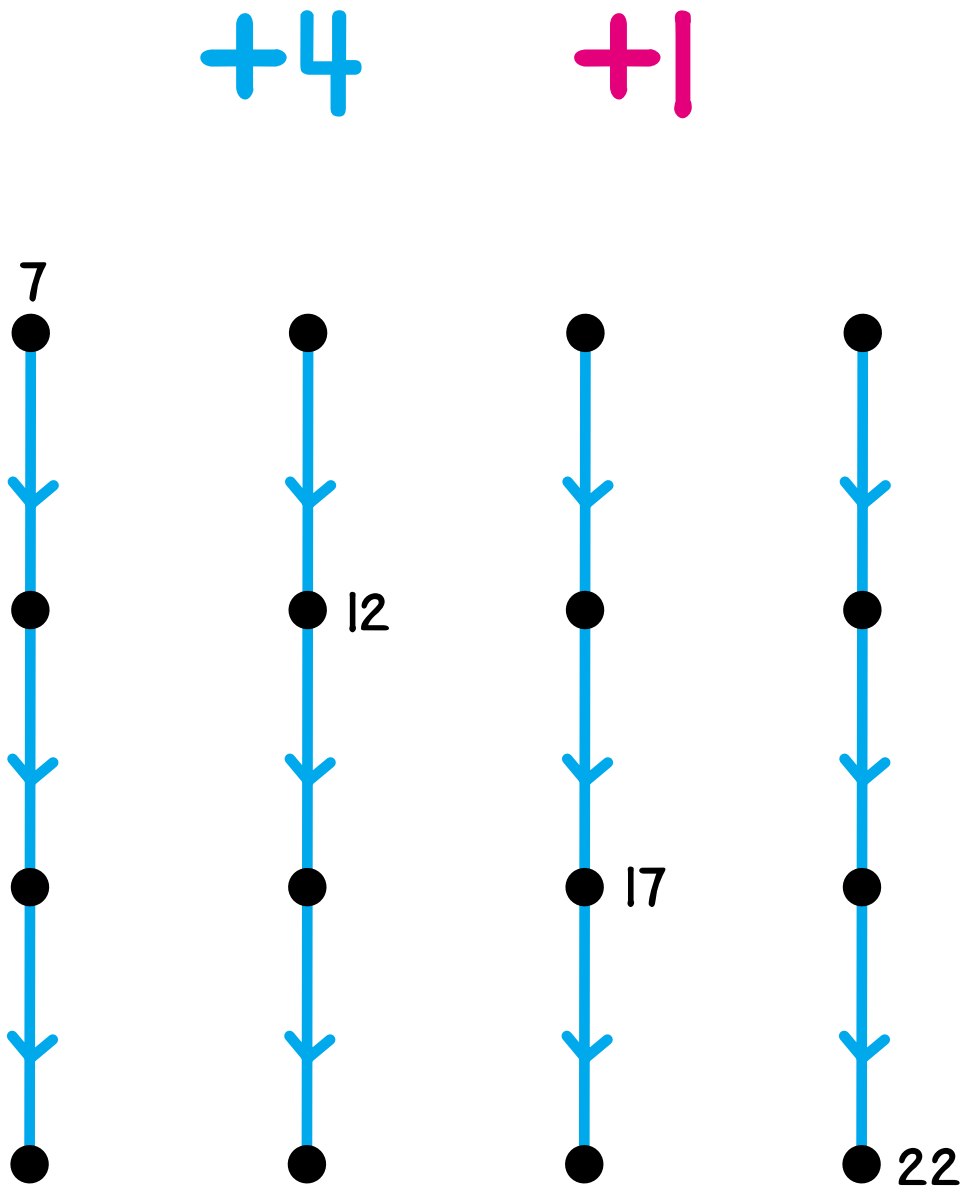


$\frac{1}{3}$

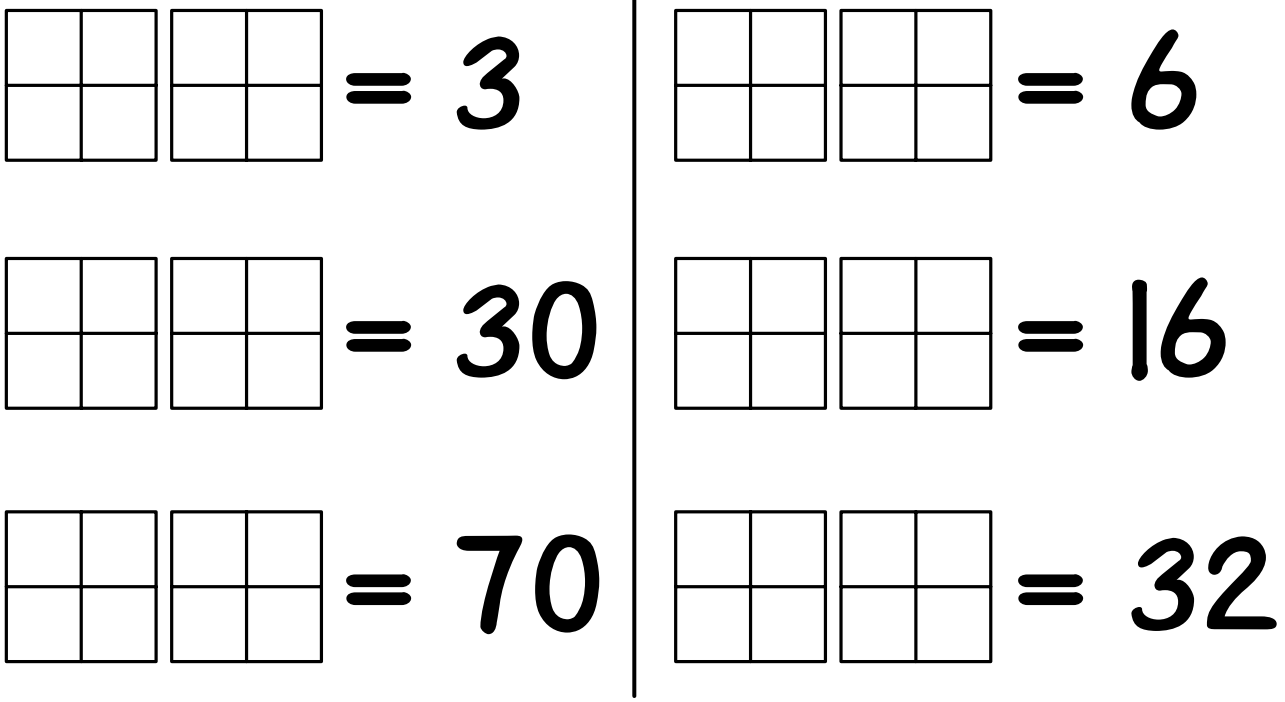


$\frac{1}{3}$

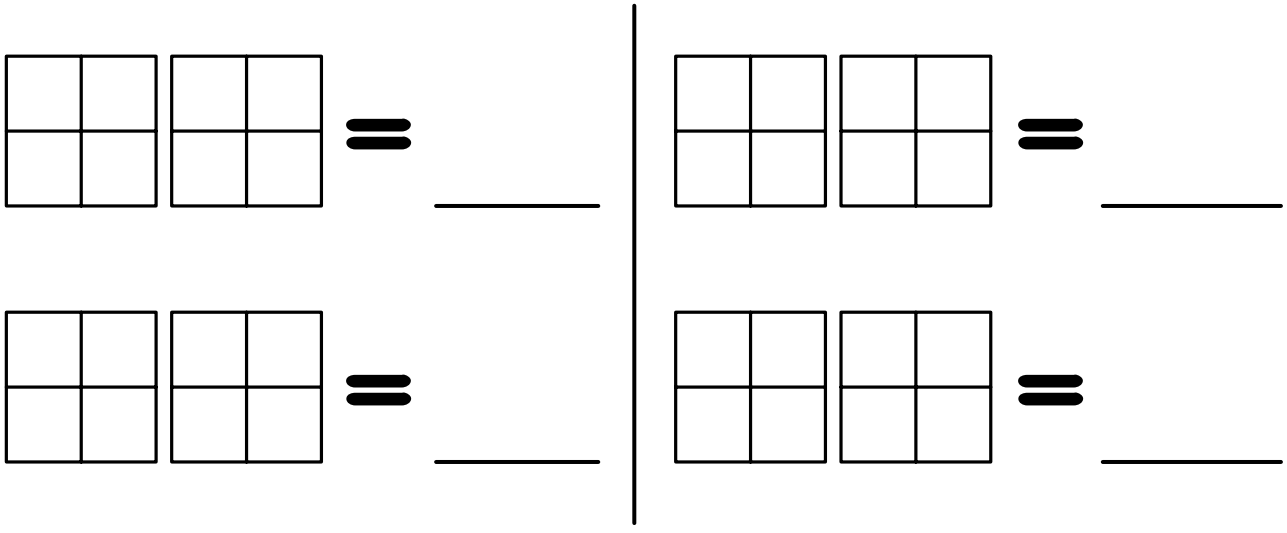
Label the dots. Draw all the missing +1 (red) arrows.



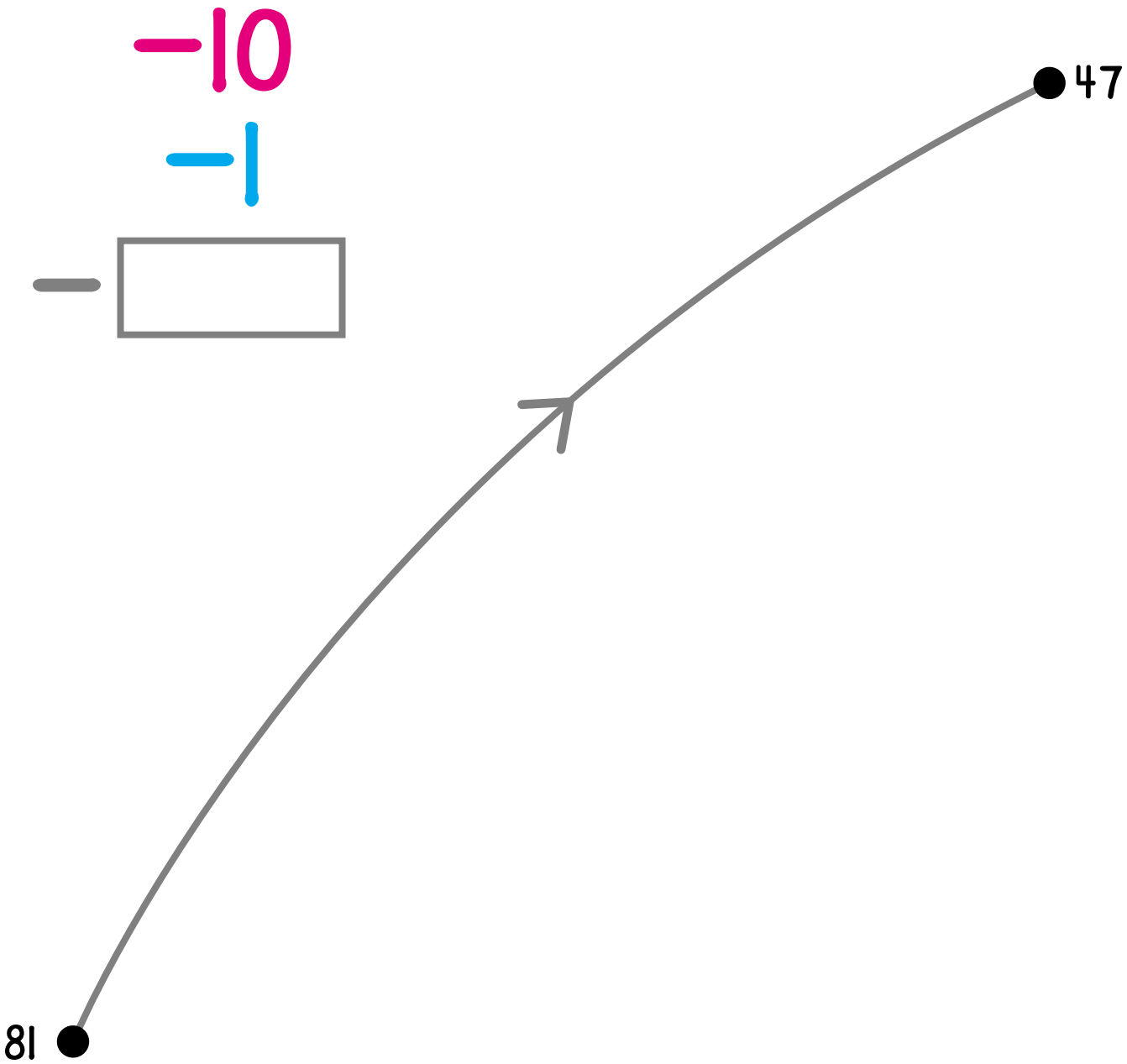
Put these numbers on the Minicomputer using one positive and one negative checker for each.



Put any number you like on the Minicomputer using one positive and one negative checker.

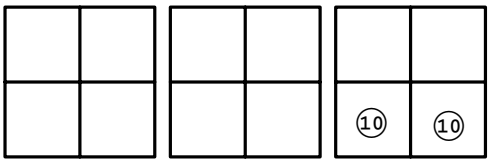


Build an arrow road from 81 to 47 using –10 and –1 arrows.
Fill in the box for the gray arrow.



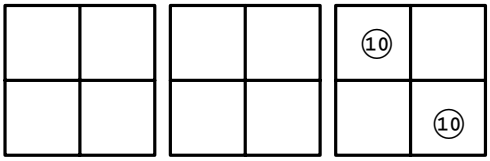
Write a calculation shown by the gray arrow.

Complete.



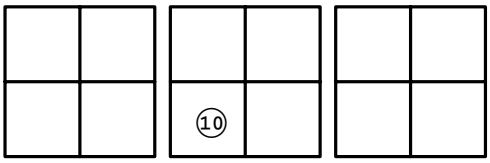
= ____

10 × 3 = ____



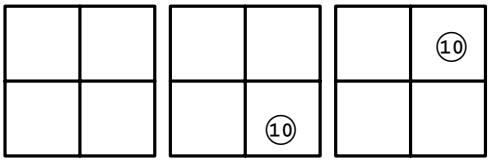
= ____

10 × 9 = ____



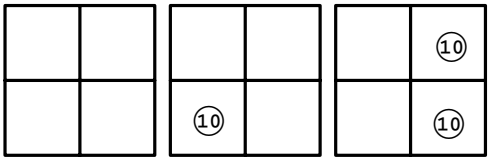
= ____

10 × 20 = ____



= ____

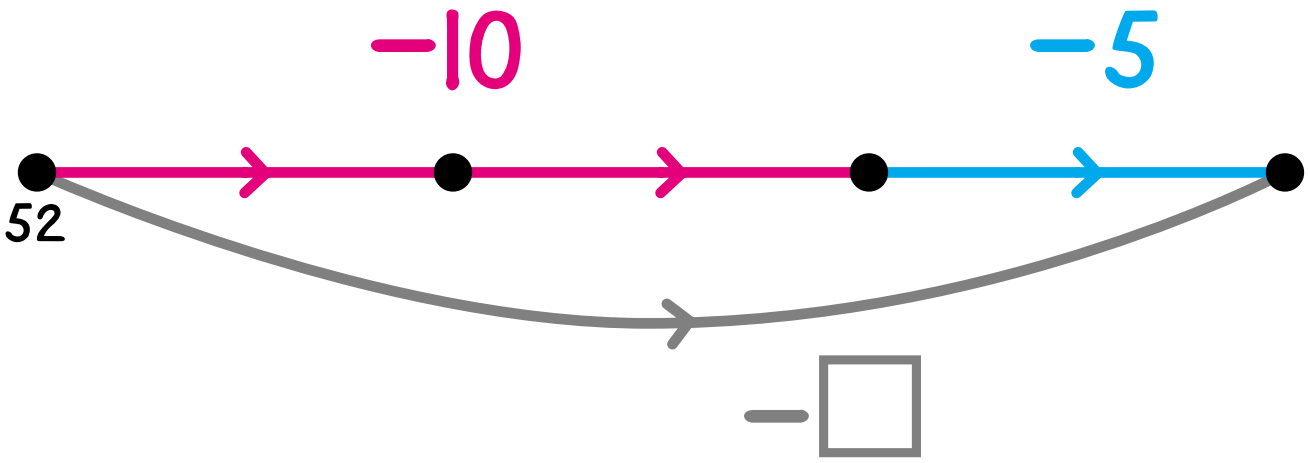
10 × 14 = ____



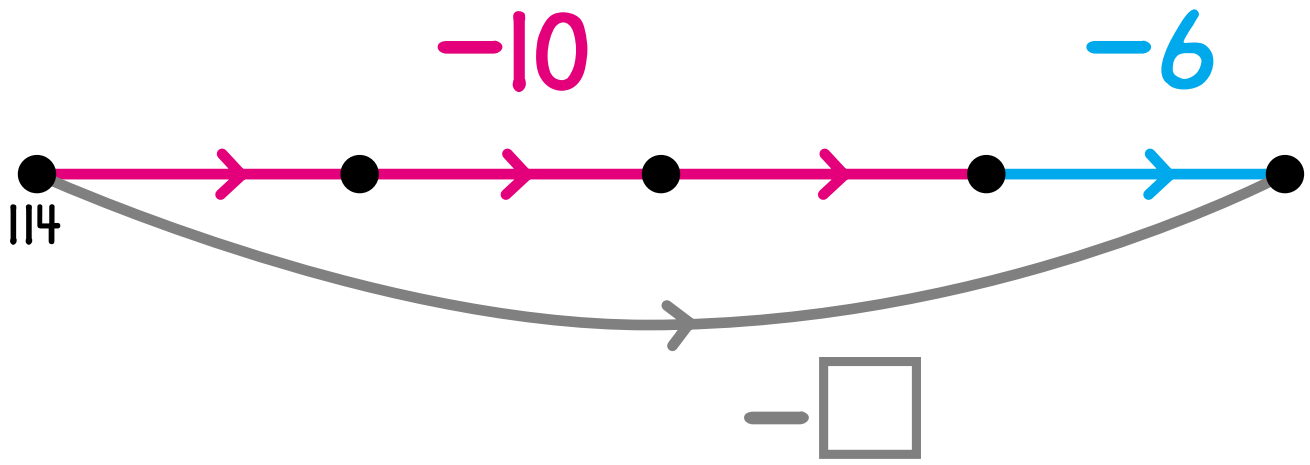
= ____

10 × 25 = ____

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

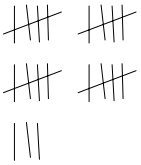
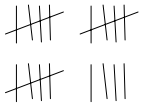
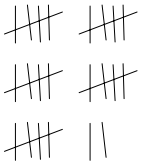
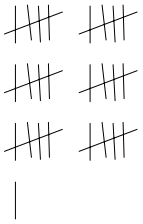
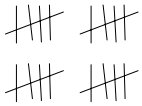


Write a calculation shown by the gray arrow.



Write a calculation shown by the gray arrow.

Five children are playing a game. They record their scores with tally marks.

Gary	Emanuel	Dawn	Melodie	Otis
				

List the children in order from lowest score to highest score.

_____ _____ _____ _____ _____

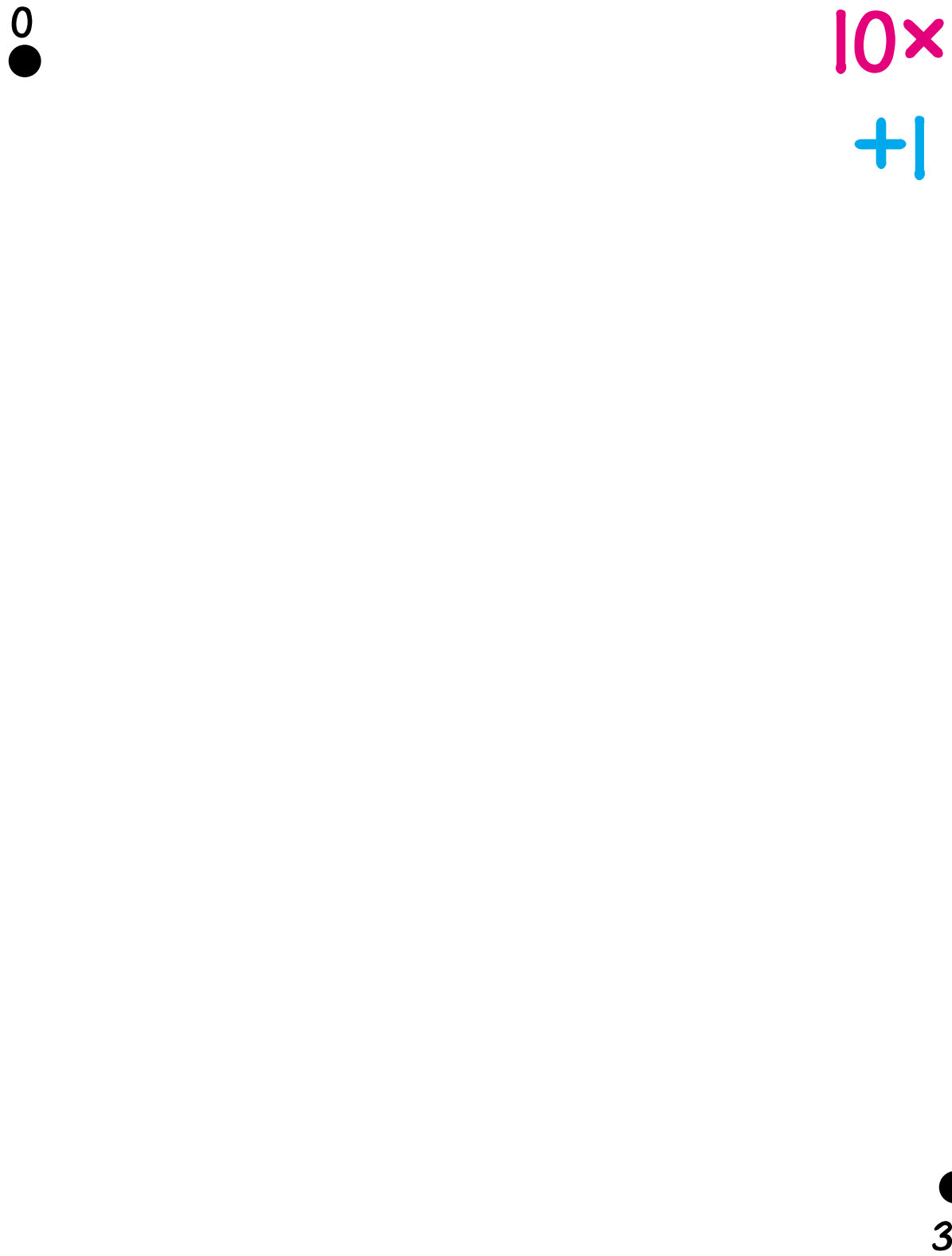
Lowest Highest

Suppose the children play with two teams, boys (Gary, Emanuel, Otis) and girls (Dawn, Melodie).

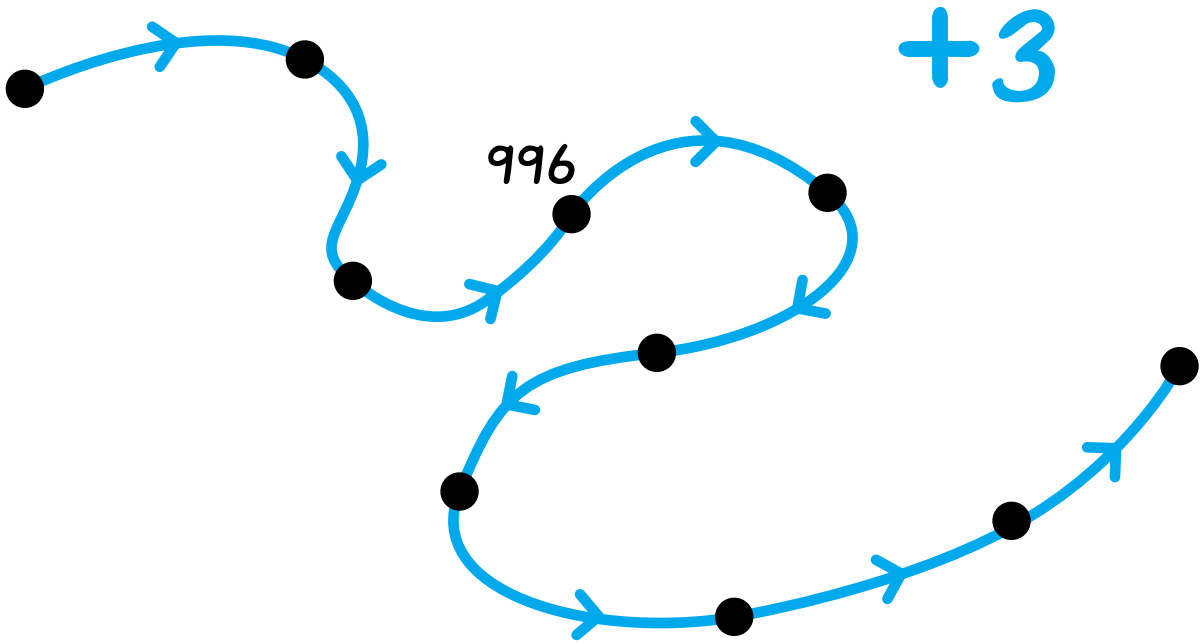
What is the score of the boy's team? _____
What is the score of the girl's team? _____

Otis has to leave the game and wants to share his points equally among the other four players. How many points should he give to each other person? _____

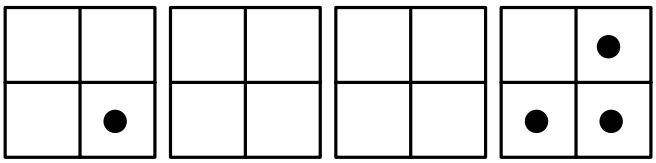
Build an arrow road from 0 to 32 using 10x and +1 arrows.



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



Ling can be put on this Minicomputer by taking off exactly one checker.

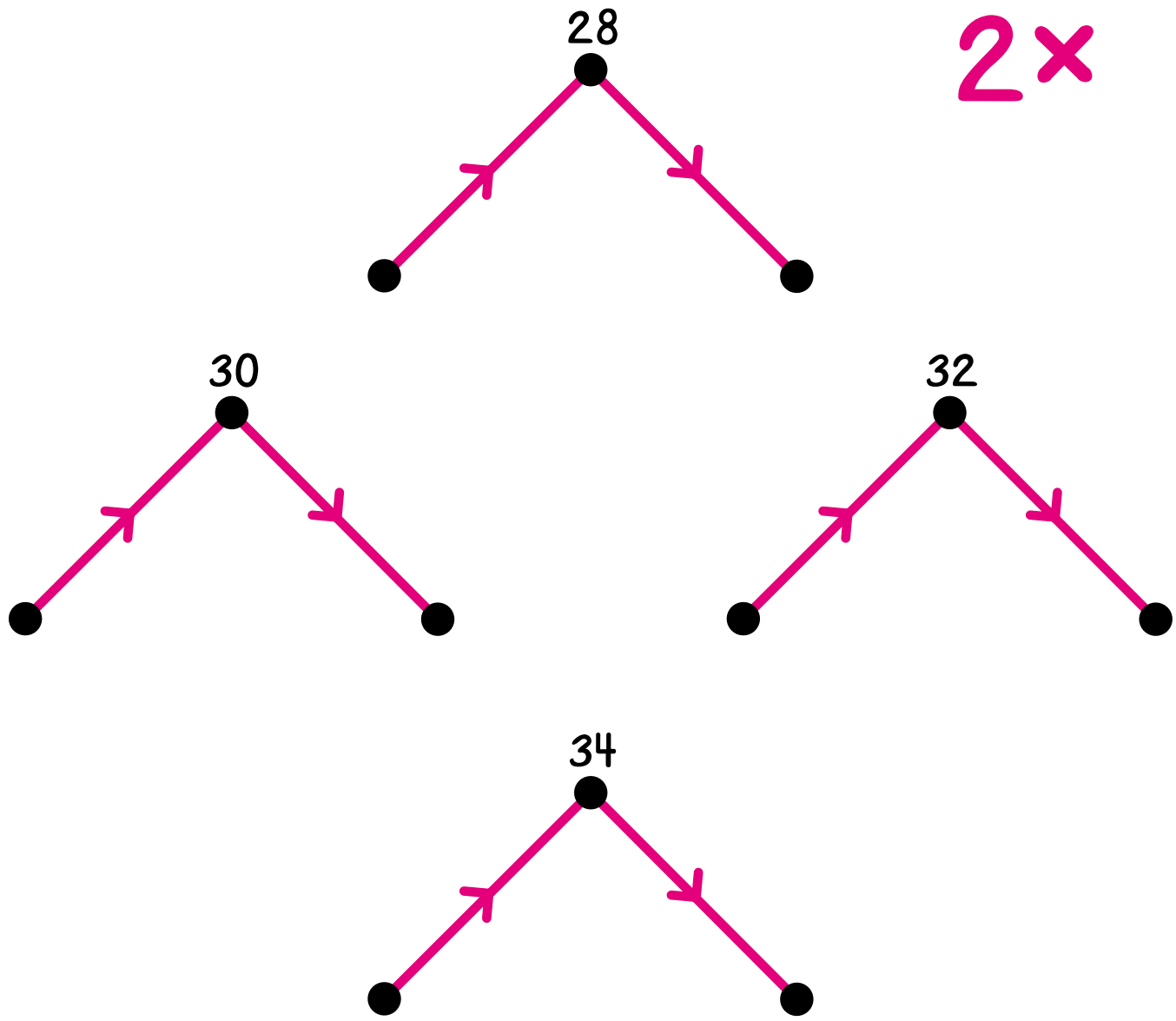


Who is Ling? _____

Show a way to have each amount of money in change. Many solutions are possible. One is done for you.

 **Quarters**	 **Dimes**	 **Nickels**	 **Pennies**	**Total Amount**
	10¢ 10¢ 10¢ 10¢	5¢	1¢	46¢
				17¢
				65¢
				$1.00
				$0.39
				$0.91

Label the dots.



2 × 15 = _____ 2 × 17 = _____ 2 × 19 = _____

28 ÷ 2 = _____ 32 ÷ 2 = _____ 38 ÷ 2 = _____

One Lunch	
2	slices bread
4	slices ham
7	carrot sticks
12	chips
3	cookies

How much of each ingredient do you need to make:

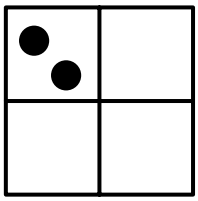
Three Lunches	
_____	slices bread
_____	slices ham
_____	carrot sticks
_____	chips
_____	cookies

Five Lunches	
_____	slices bread
_____	slices ham
_____	carrot sticks
_____	chips
_____	cookies

Ten Lunches	
_____	slices bread
_____	slices ham
_____	carrot sticks
_____	chips
_____	cookies

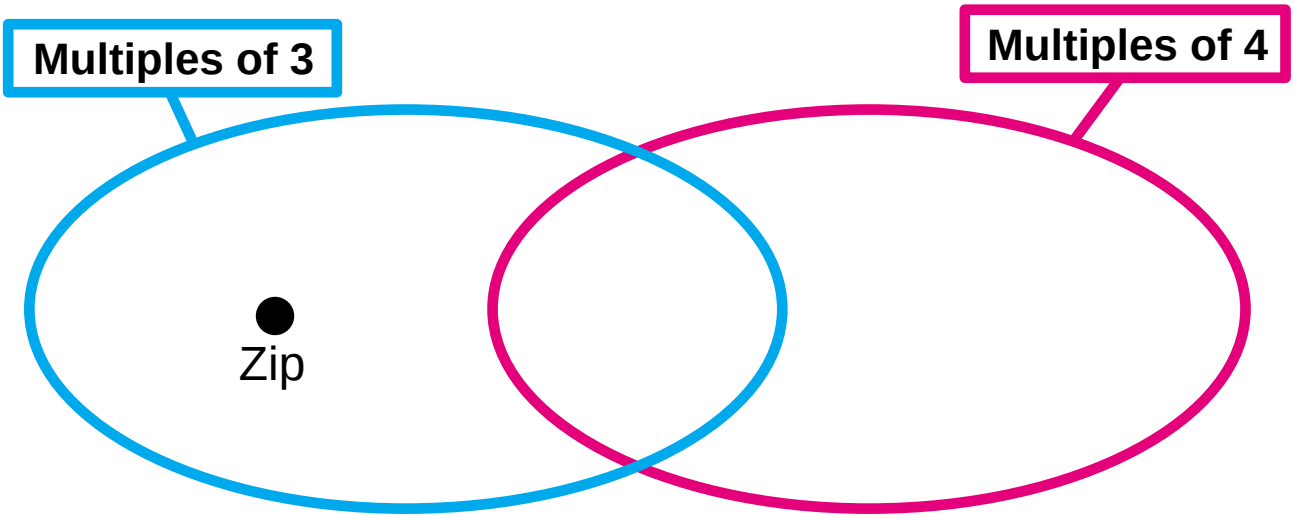
Zip is a secret number.

Zip can be put on this Minicomputer by adding one more regular checker.



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

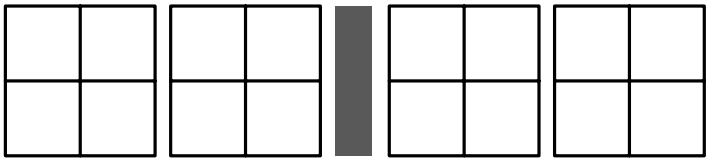
Zip is in this string picture.



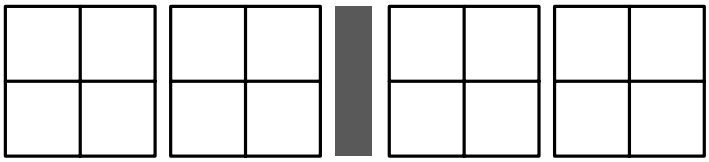
Who is Zip? _____

Put these numbers on the Minicomputer.

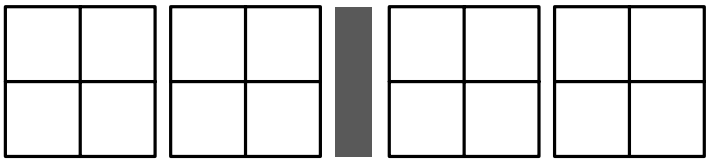
10 =



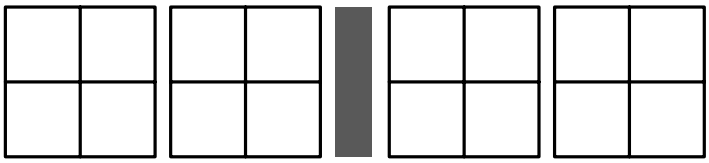
0.50 =



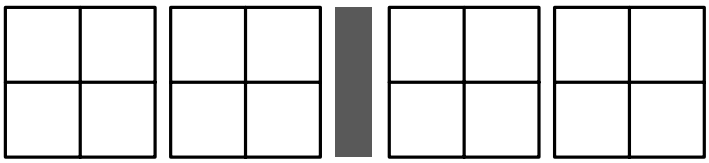
10.50 =



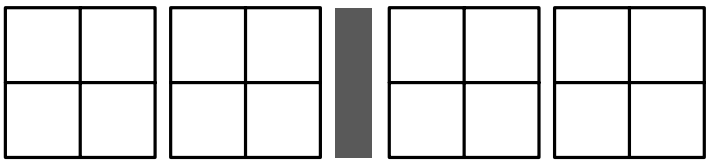
4 =



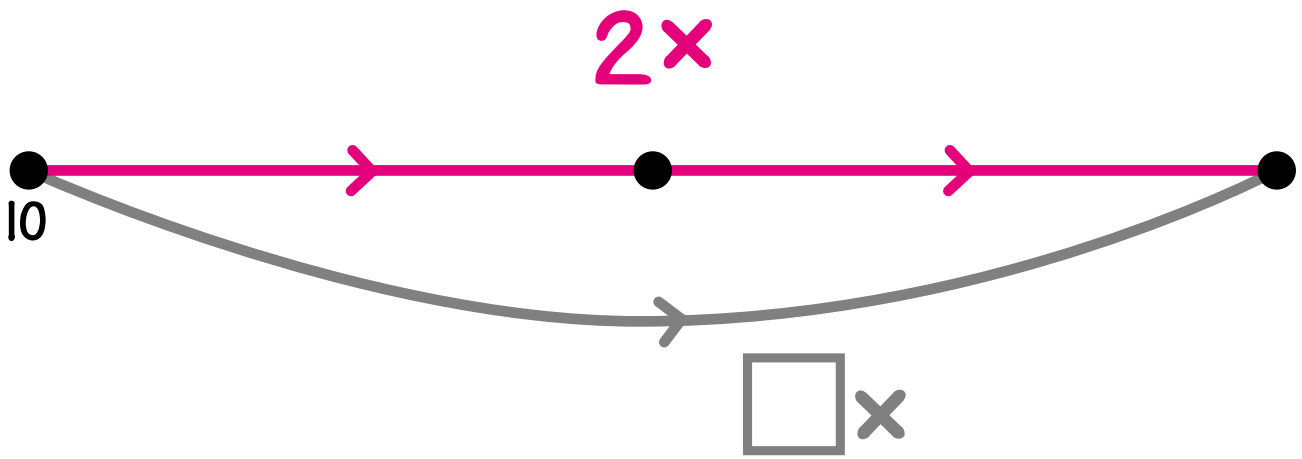
0.28 =

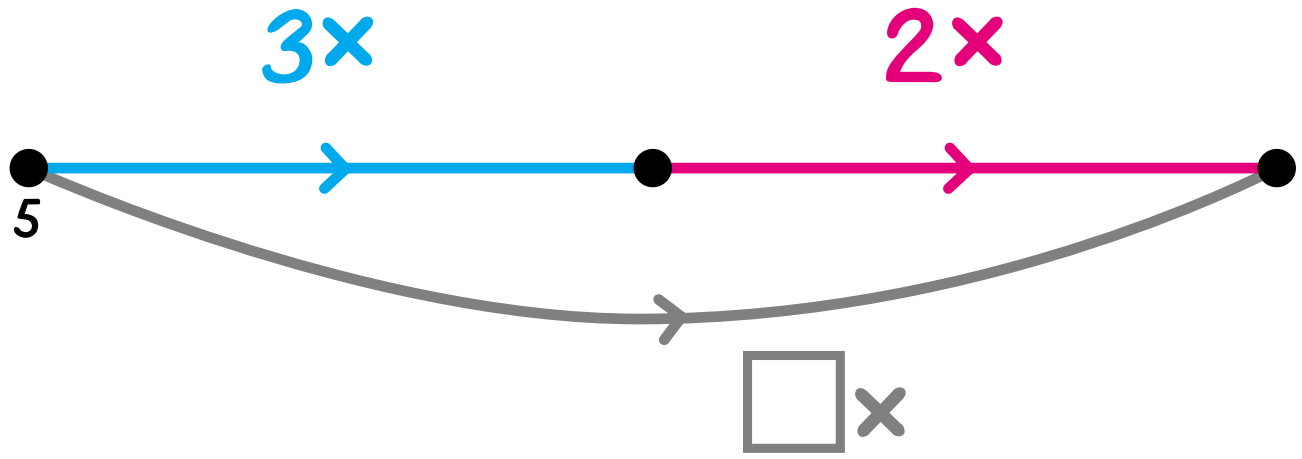


4.28 =



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





Use the pictures above to help with these calculations.

4 × 12 = _____ 6 × 15 = _____

4 × 21 = _____ 6 × 7 = _____

Complete this addition table.

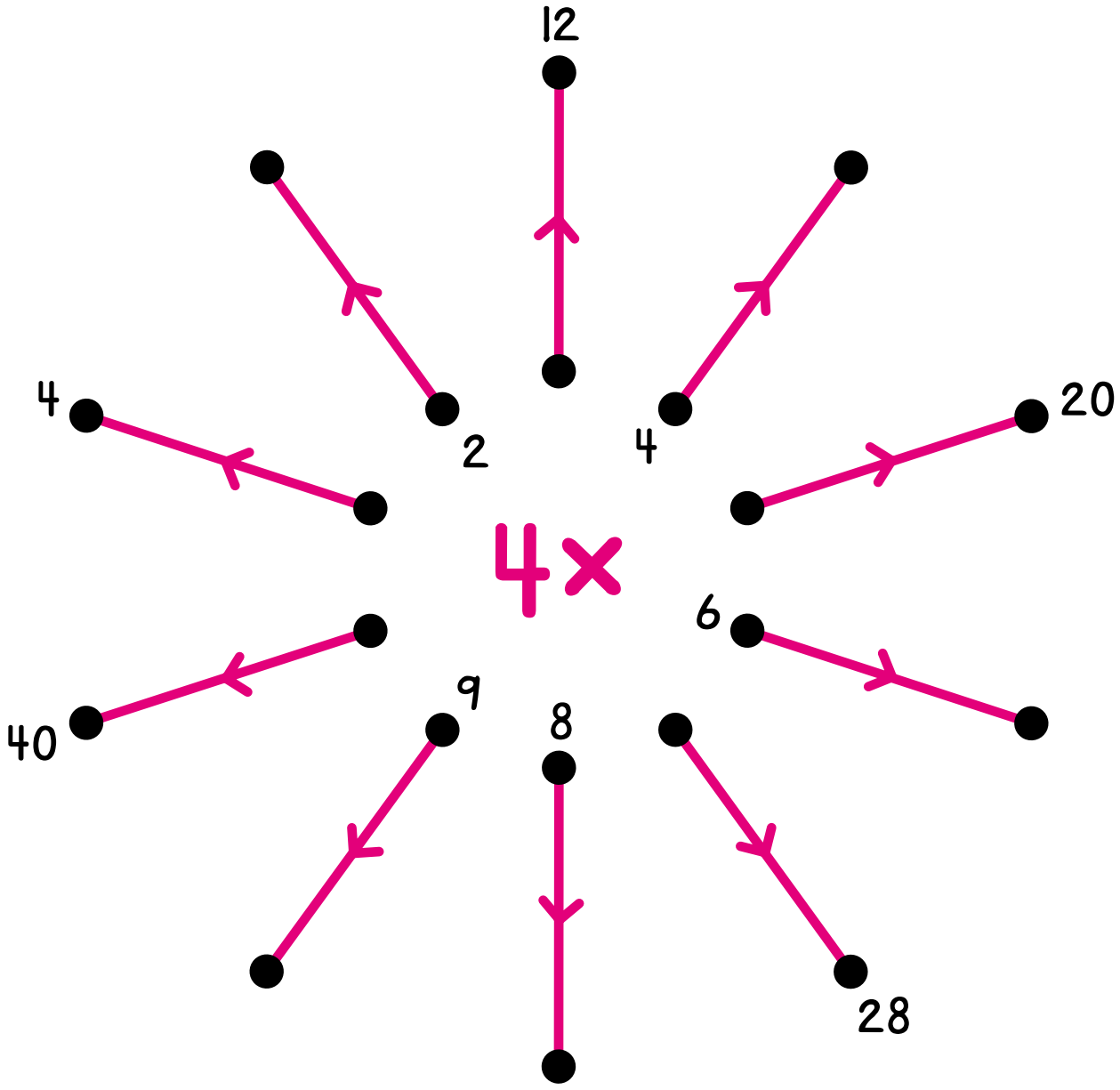
+	5	0	2	10
1				
5				
2				
3				

$10 + 4 = \_\_\_\_\_$ $\quad$ $7 + 7 = \_\_\_\_\_$

$5 + 5 = \_\_\_\_\_$ $\quad$ $0 + 8 = \_\_\_\_\_$

$6 + 12 = \_\_\_\_\_$ $\quad$ $10 + 3 = \_\_\_\_\_$

Label the dots.

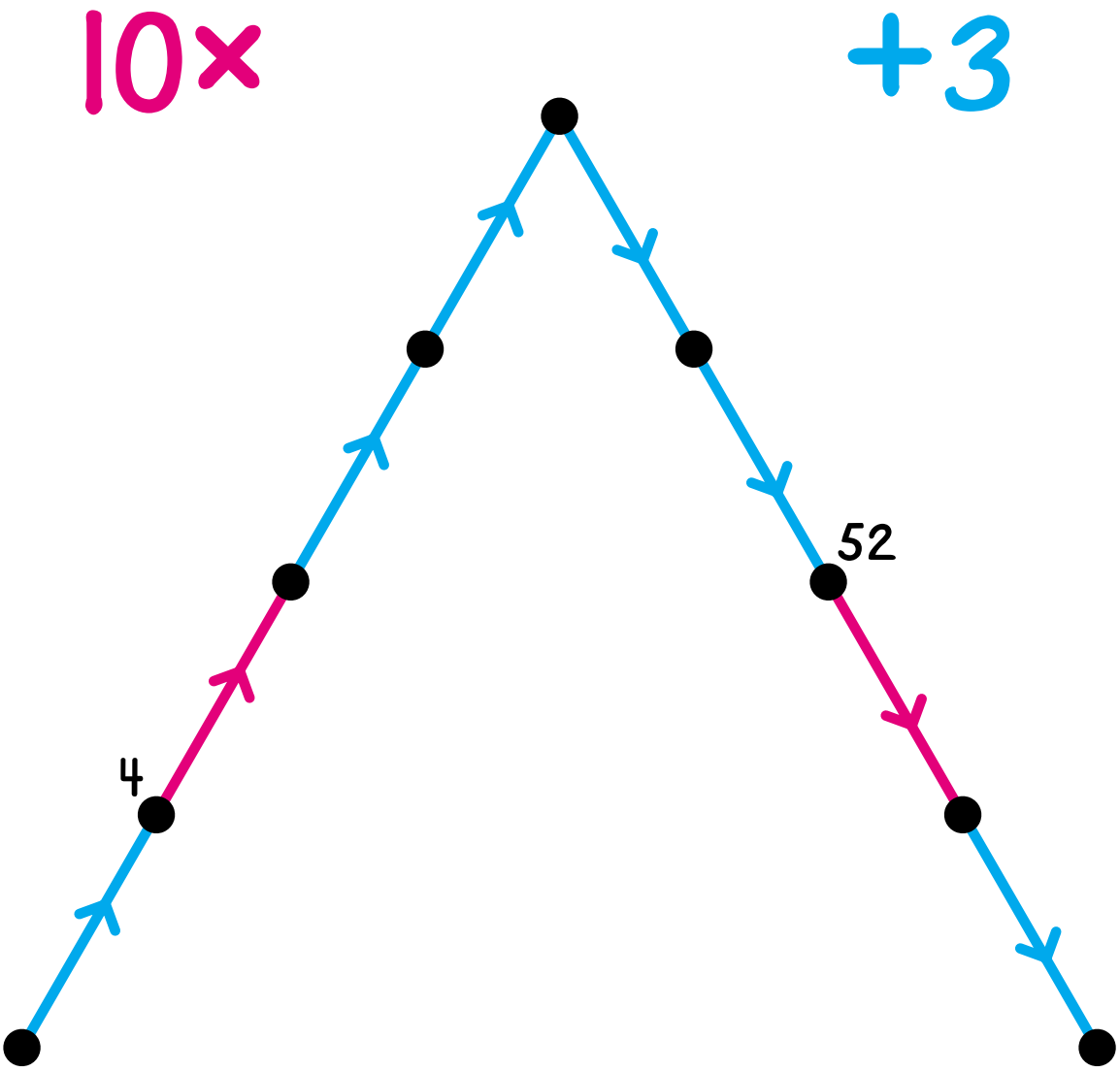


4 × 9 = _____ 4 × 5 = _____ 4 × 7 = _____

4 × 6 = _____ 4 × 3 = _____ 4 × 2 = _____

4 × 4 = _____ 4 × 10 = _____ 4 × 0 = _____

Label the dots.



Complete these number sentences.

$(7 + 8) \times 2 =$ _____

$7 + (8 \times 2) =$ _____

$8 + (7 \times 2) =$ _____

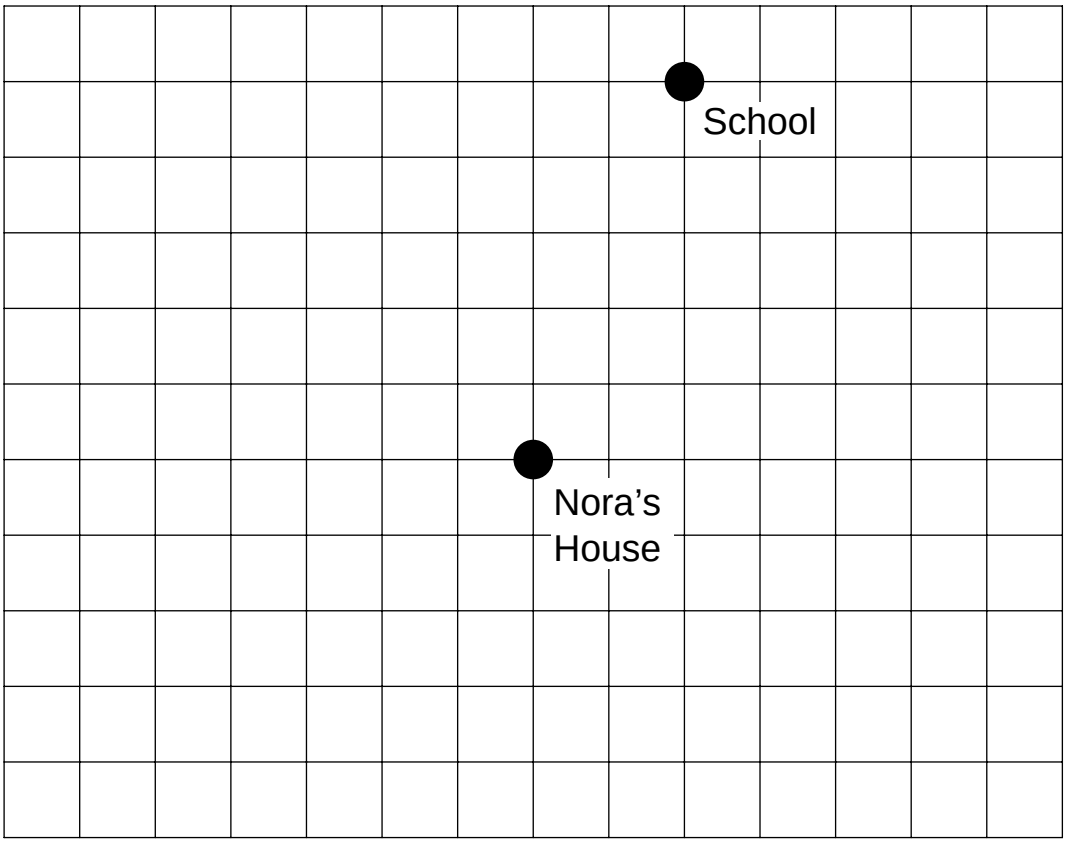
$(3 \times 5) - 4 =$ _____

$3 \times (5 - 4) =$ _____

$(3 \times 4) - 5 =$ _____

Help Nora find Sonja's house by using these clues.

Clue 1 Sonja lives 4 blocks (taxi-distance) from Nora.

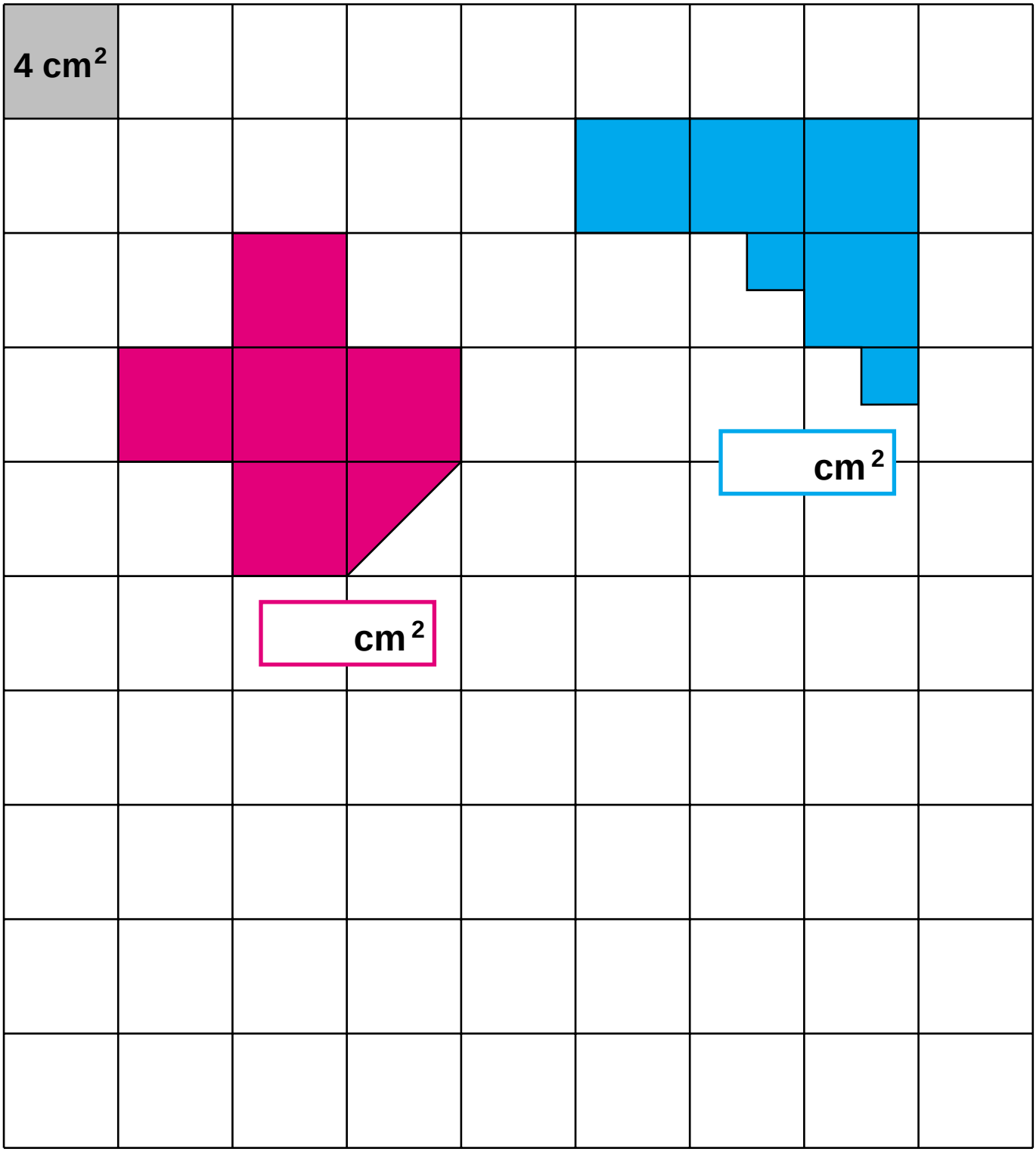


Clue 2 Sonja only has to walk 3 blocks to school.

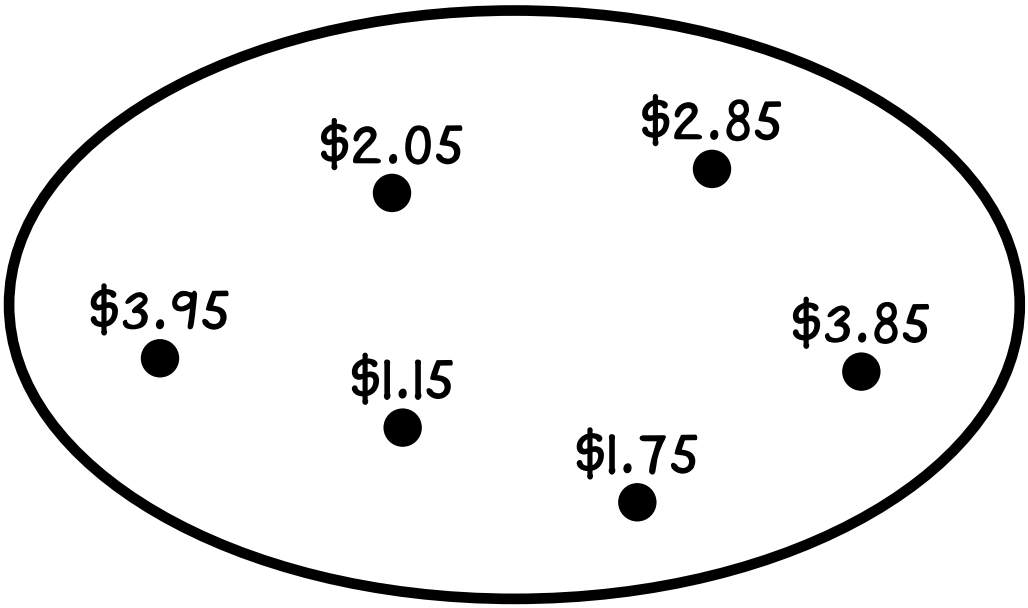
Clue 3 Nora can get to Sonja's house going in one direction.

Label a dot for Sonja's house.

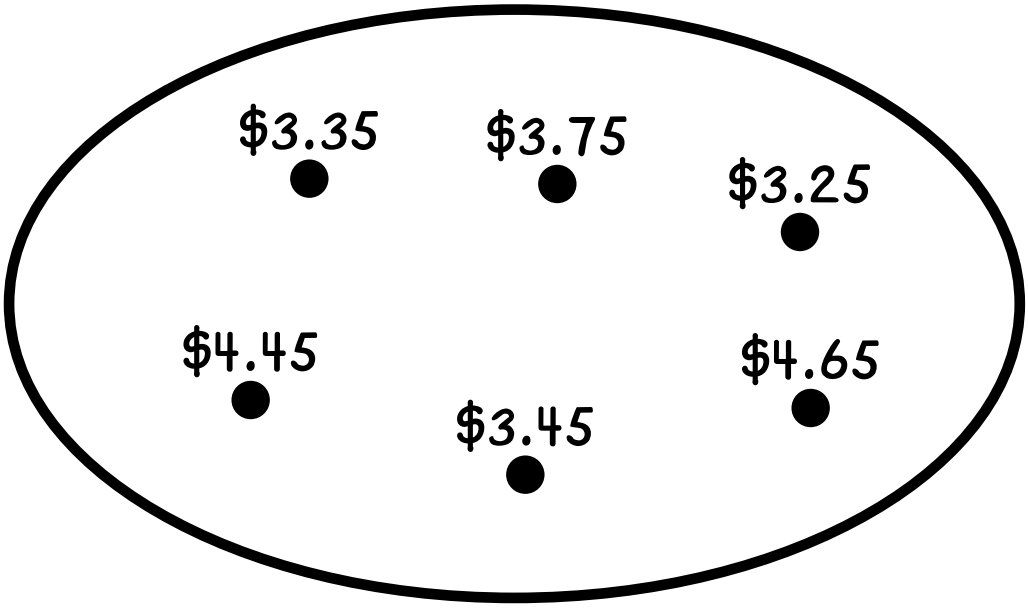
Find the area of each shape. Color a shape whose area is 30 cm ².



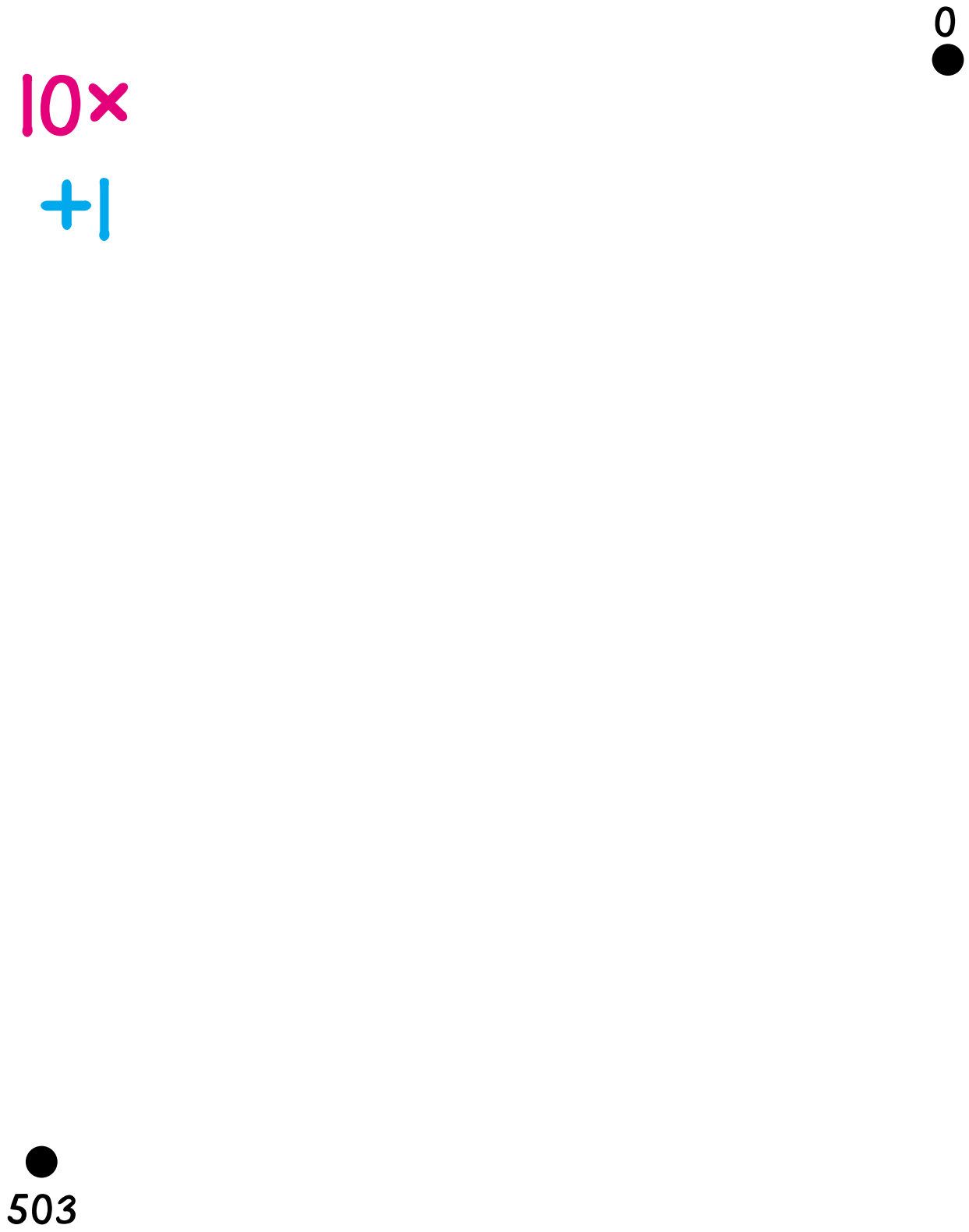
Lisa buys two flags and spends exactly $5. Draw one string around the prices of these two flags.



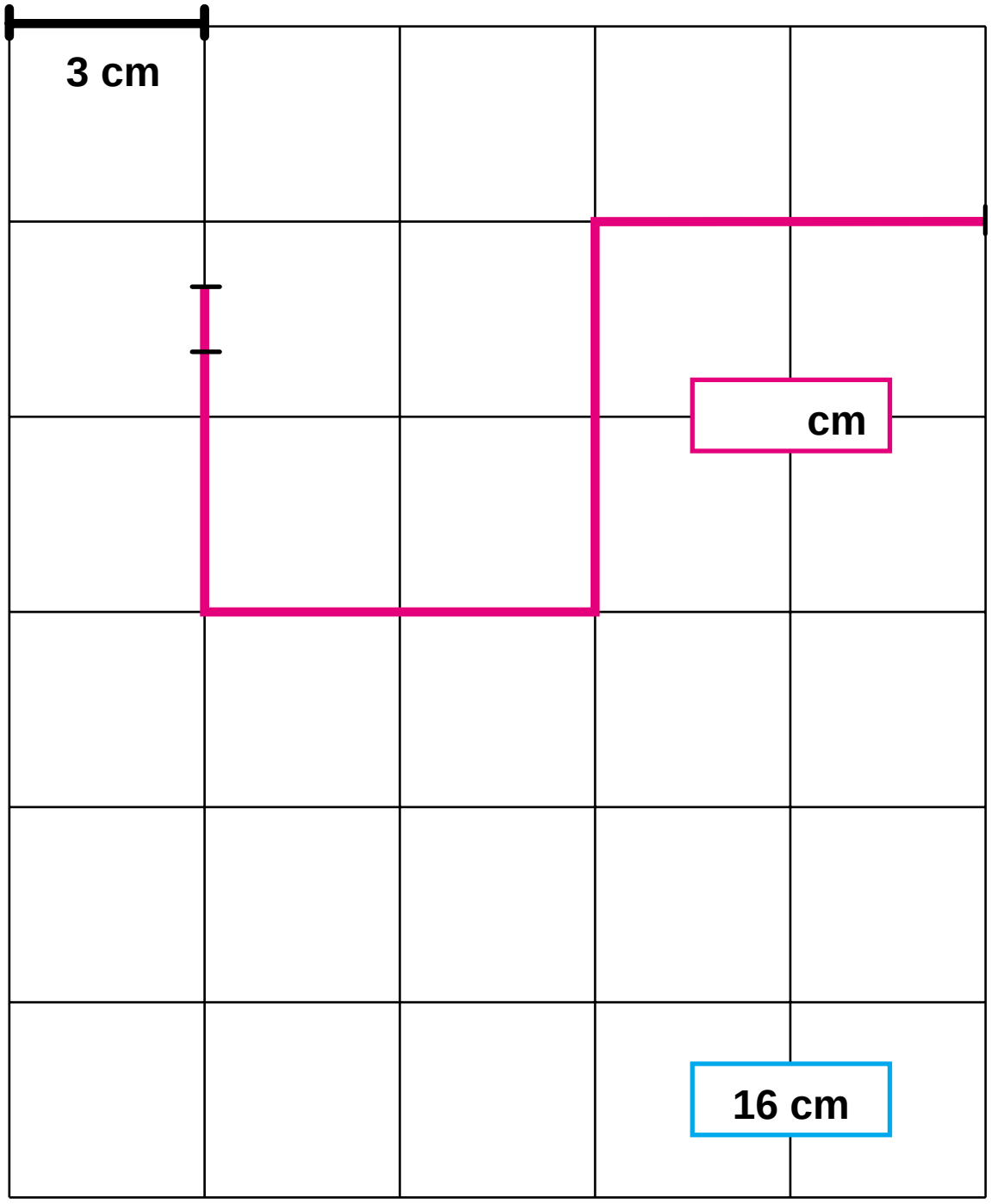
Bryce buys two books and spends exactly $8. Draw one string around the prices of these two books.



Build an arrow road from 0 to 503 using 10x and +1 arrows.



Find the length of the red zigzag path.
Draw a blue zigzag path that is 16 cm long.



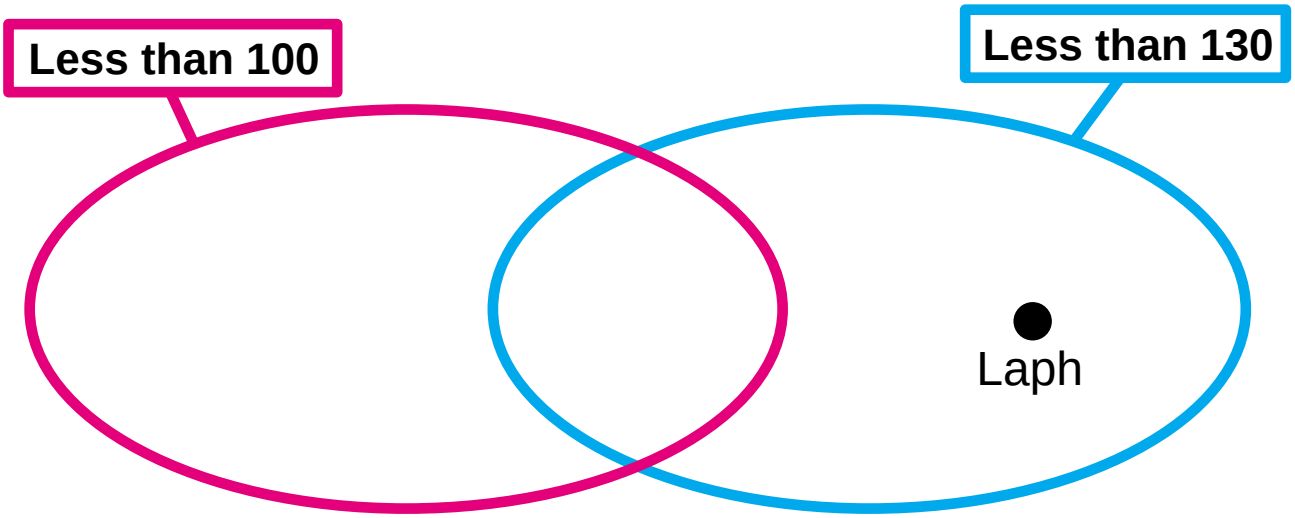
Circle all the multiples of 8 in red.
Circle all the multiples of 9 in blue.

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108	109

What do you notice about your picture?

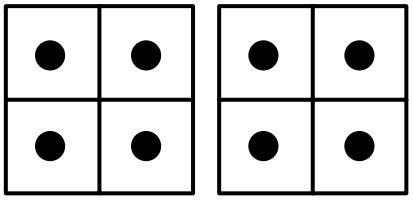
Are any numbers circled both red and blue?

Laph is a secret number.
Laph is in this string picture.



What is the greatest whole number Laph could be? _____
What is the least whole number Laph could be? _____

Laph can be put on this Minicomputer by taking off exactly one checker.



Who is Laph? _____

Put in parentheses to get as small a number as possible.

$5 + 3 \times 2 =$ _____

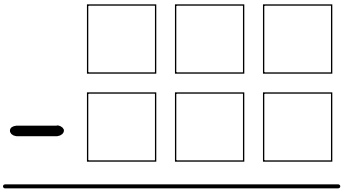
$4 \times 4 + 6 =$ _____

$7 \times 2 - 1 =$ _____

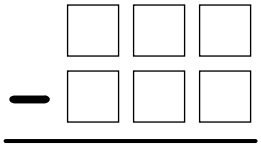
$8 - 4 \times 2 =$ _____

$9 + 3 \times 5 =$ _____

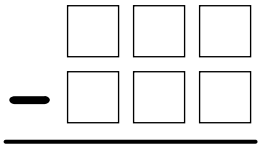
Put the six number cards 1 2 3 4 5 6 in the spaces of this subtraction problem. Use all the cards, each card once.



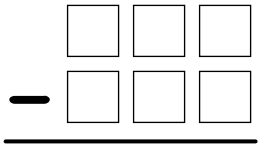
What is the greatest difference you can get? _____
Explain.



What is the least positive difference you can get? _____
Explain.



Can you get a difference between 300 and 400? _____
Explain.



Can you get a difference of 406? _____
Explain.