CSMP Mathematics for the Intermediate Grades Part V

Worksheets

What's In This Book?

This book contains all the worksheets you will need for *CSMP for the Intermediate Grades, Part V*. Worksheets are labeled with the same letter and number as the lessons with which they are used. In this book, they are in the following order:

N Worksheets

N2	N12	N24
N3	N14	N28
N4	N15	N29
N6	N16	N30
N7	N18	N31
N8	N20	N32
N9	N22	N33
N10	N23	N35

L Worksheets

L2	L6	L12
L3	L10	L13
L5	L11	L15

G Worksheets

G3	G5	G12
G4	G9	

P Worksheets

P1	P3	P5
P2	P4	P8

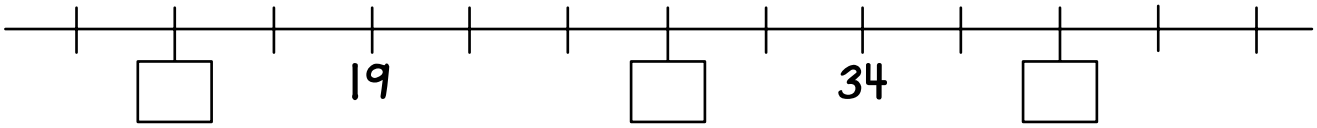
W Worksheets

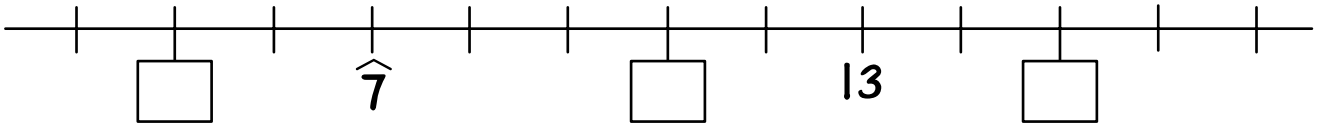
W7

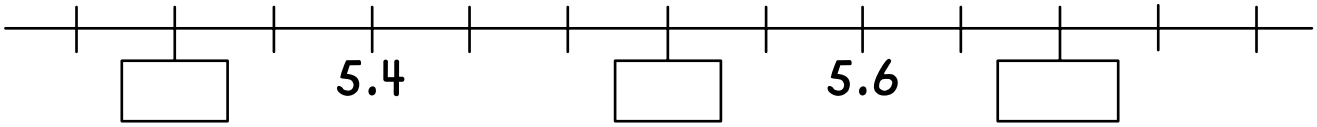
Name _____

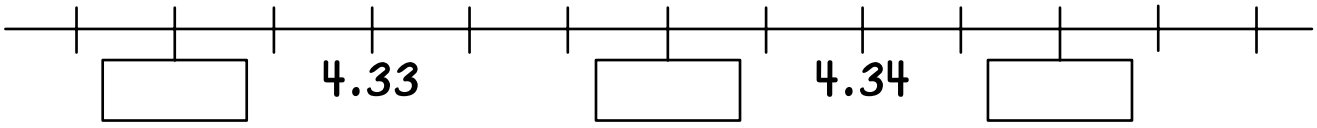
N2

Fill in the boxes to label marks on the number lines.





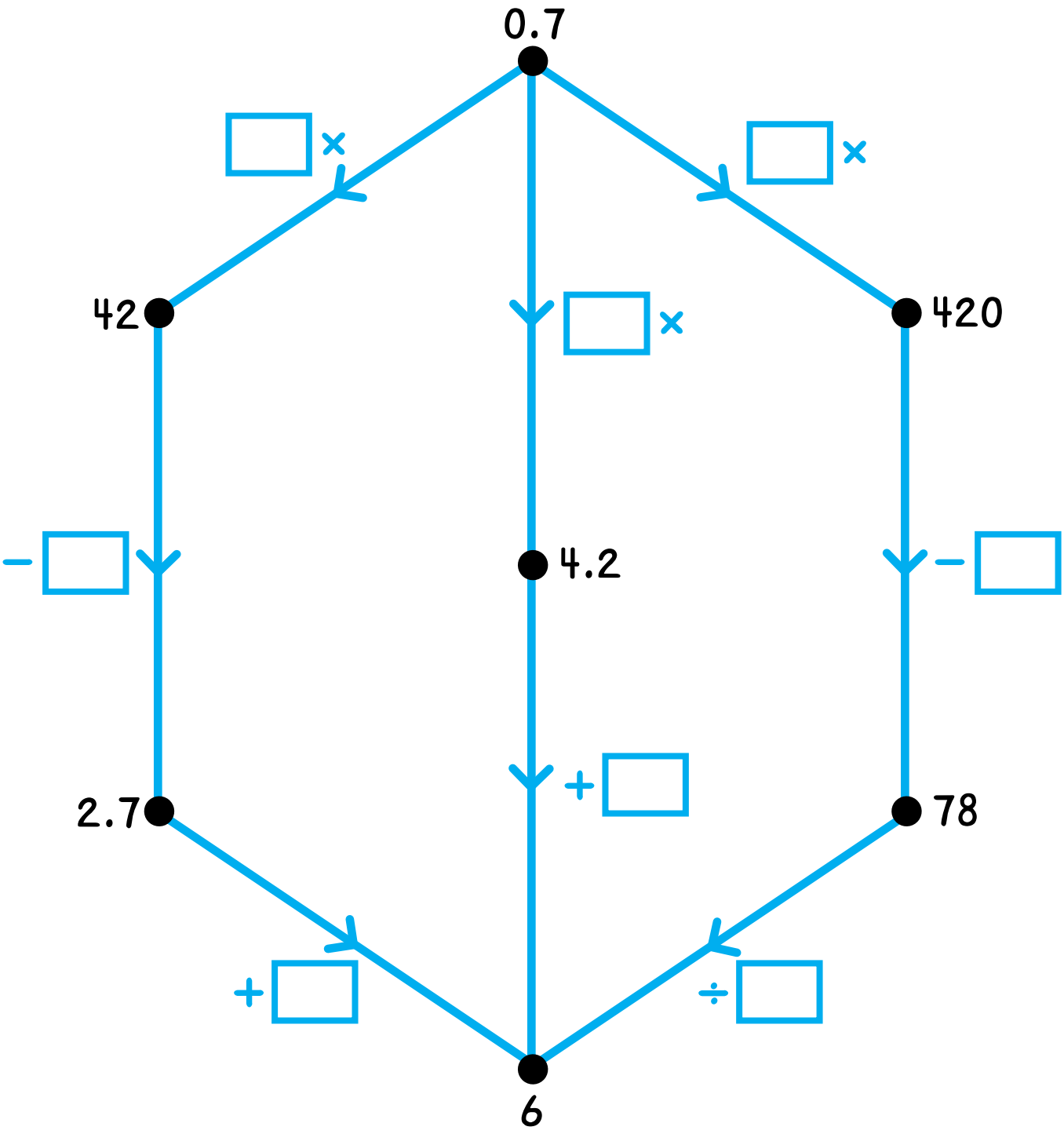




Name _____

N2 *

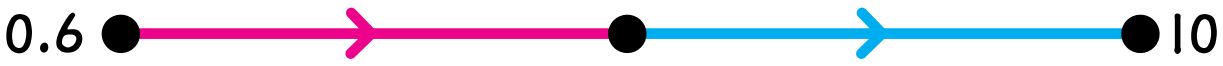
Fill in the boxes for the arrows.



Name _____

N2 **

Pair the tags.



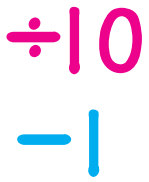
$6\times$	$\frac{5}{6}\times$
$\div 10$	$4\times$
$20\times$	$+6.4$
$+1.9$	$40\times$
-0.35	$+9.94$

Name _____

N2 ***

Clue 1

Flip is the ending number of an arrow road starting at 256 and using exactly two ÷10 arrows and two −1 arrows.

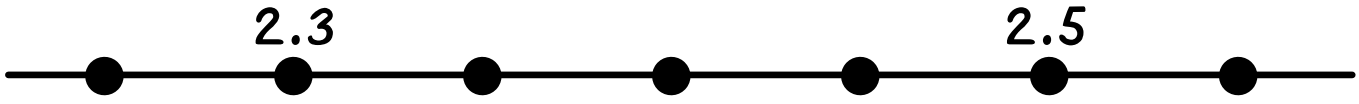


256 ●

Fllip could be _____, _____, _____, _____, _____, or _____.

Clue 2

Label each dot. Flip is one of these number.



Who is Flip? _____

Name _____

N3 *

Complete these number sentences.

$(8 \times 6) + (4 \div 2) =$ ____

$(8 \times 6) + (4 \div 2) =$ ____

$(8 \times (6 + 4)) \div 2 =$ ____

$((8 \times 6) + 4) \div 2 =$ ____

$8 \times ((6 + 4) \div 2) =$ ____

$8 \times (6 + (4 \div 2)) =$ ____

Name _____

N3 **

Rig is a secret number.

Clue 1

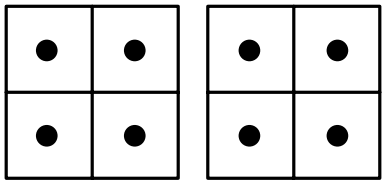
Parentheses are missing from this name for Rig.

$$2 \times 3 + 4 \times 5$$

Show all of the possible ways to put parentheses in this expression and find the numbers that Rig could be.

Rig could be _____, _____, _____, or _____.

Clue 2



By moving exactly two of these checkers to other squares, you will find Rig.

Rig could be _____ or _____.

Clue 3

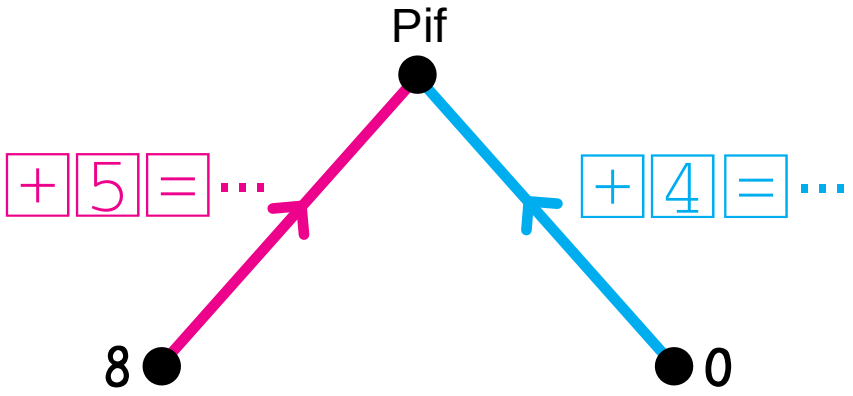
Rig is not a positive divisor of 200.

Who is Rig? _____

Name _____ N3 ***

Pif is a secret number.

Clue 1

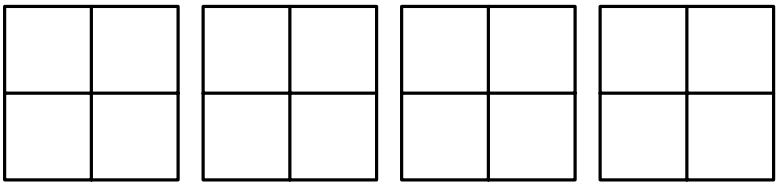


Pif could be ____, ____, ____, ____, ____, ____, ____, ____, and so on.

Clue 2

Pif can be put on the Minicomputer using exactly one of these checkers:

② ③ ④ ⑤
⑥ ⑦ ⑧ ⑨



Pif could be _____ or _____.

Clue 3

A name for Pif can be written using four 7s and these symbols:

× − ( )

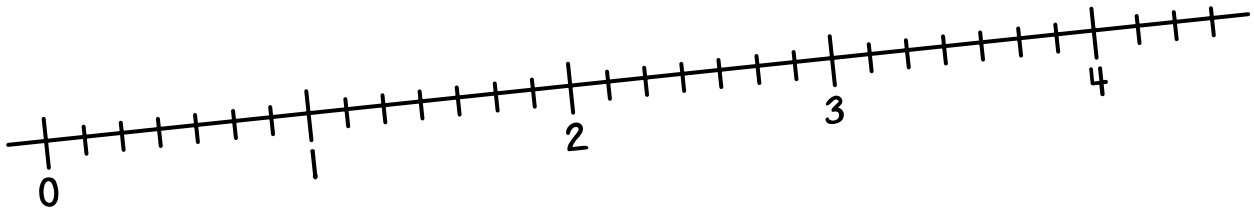
Who is Pif? _____

Write a name for Pif using four 7s and these symbols. _____

Name _____ N4 *

Place these numbers on the number line.

$\frac{2}{7}$ $\frac{6}{7}$ $\frac{17}{7}$ $\frac{10}{7}$ $\frac{22}{7}$



Complete. One is done for you.

$\frac{17}{7} = 2\frac{3}{7}$ $\frac{10}{7} = \square$

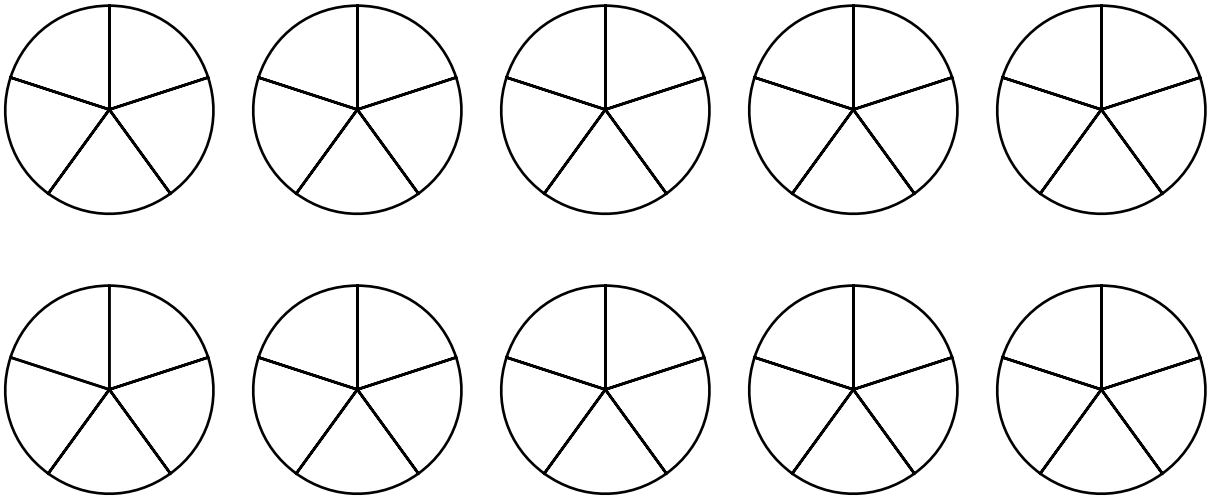
$\frac{22}{7} = \square$ $\frac{26}{7} = \square$

$1 = \frac{\square}{7}$ $2 = \frac{\square}{7}$ $3 = \frac{\square}{7}$

$4 = \frac{\square}{7}$ $5 = \frac{\square}{7}$ $6 = \frac{\square}{7}$

Name _____

N4 **



Complete.

$\frac{3}{5} + \frac{4}{5} =$ _____ $\frac{7}{5} + \frac{6}{5} =$ _____

$2\frac{3}{5} + 1\frac{3}{5} =$ _____ $1\frac{4}{5} + 2\frac{1}{5} =$ _____

$\frac{7}{5} - \frac{4}{5} =$ _____ $3 - \frac{1}{5} =$ _____

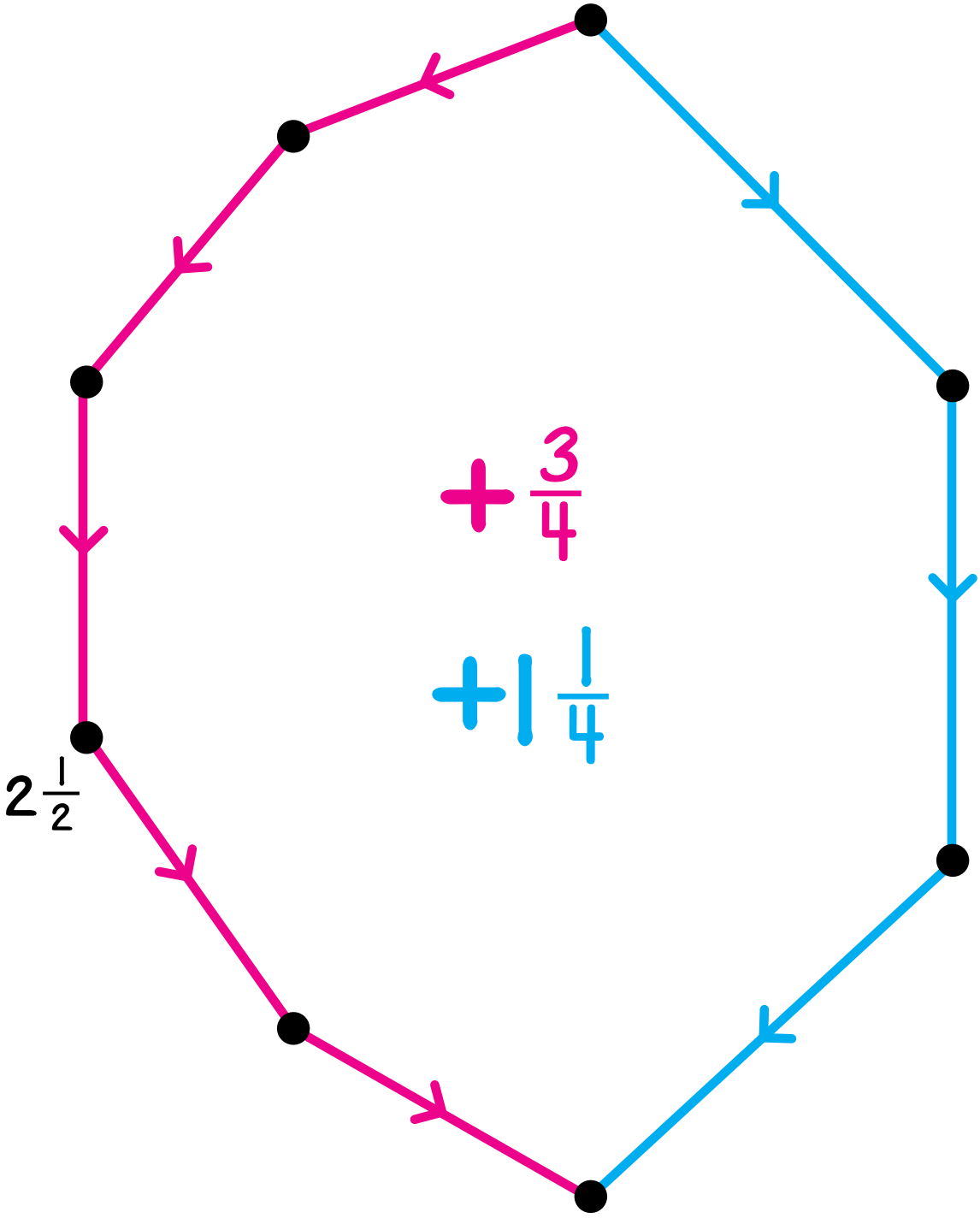
$3\frac{4}{5} - 1\frac{2}{5} =$ _____ $3\frac{1}{5} - 1\frac{2}{5} =$ _____

$3 \times \frac{4}{5} =$ _____ $4 \times 2\frac{2}{5} =$ _____

Name _____

N4 ***

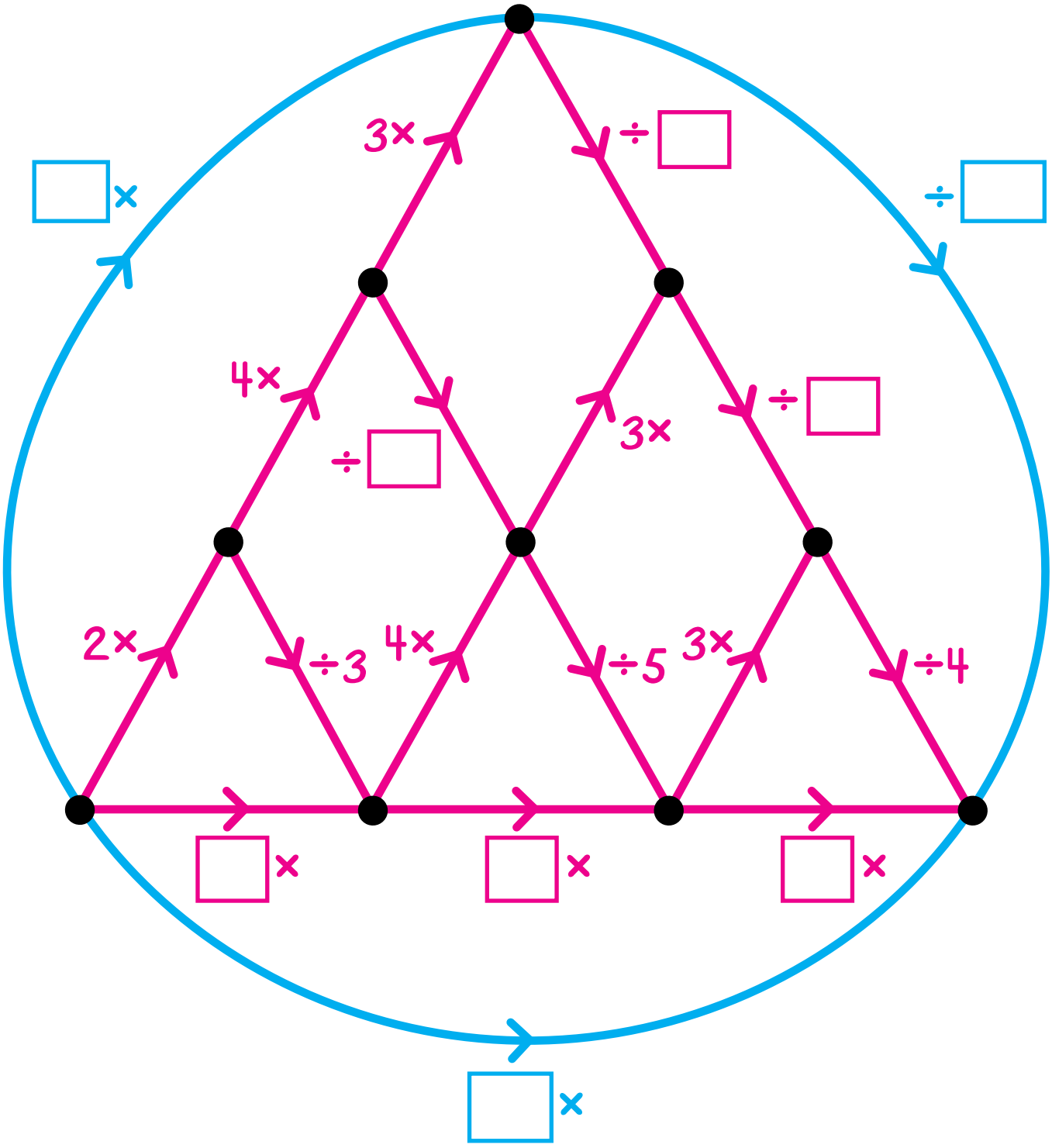
Label the dots.



Name _____

N6

Fill in the boxes for the arrows.



Name _____ N6 *

Complete.

$$\frac{1}{3} = \frac{\square}{6} = \frac{5}{\square} = \frac{\square}{21} = \frac{12}{\square}$$

$$\frac{4}{5} = \frac{\square}{15} = \frac{\square}{20} = \frac{20}{\square} = \frac{28}{\square}$$

Find the products and then write them in the preferred form.

$$\frac{2}{3} \times \frac{5}{4} = \_\_\_\_\_$$

$$\frac{1}{6} \times \frac{9}{4} = \_\_\_\_\_$$

$$\frac{12}{5} \times \frac{5}{3} = \_\_\_\_\_$$

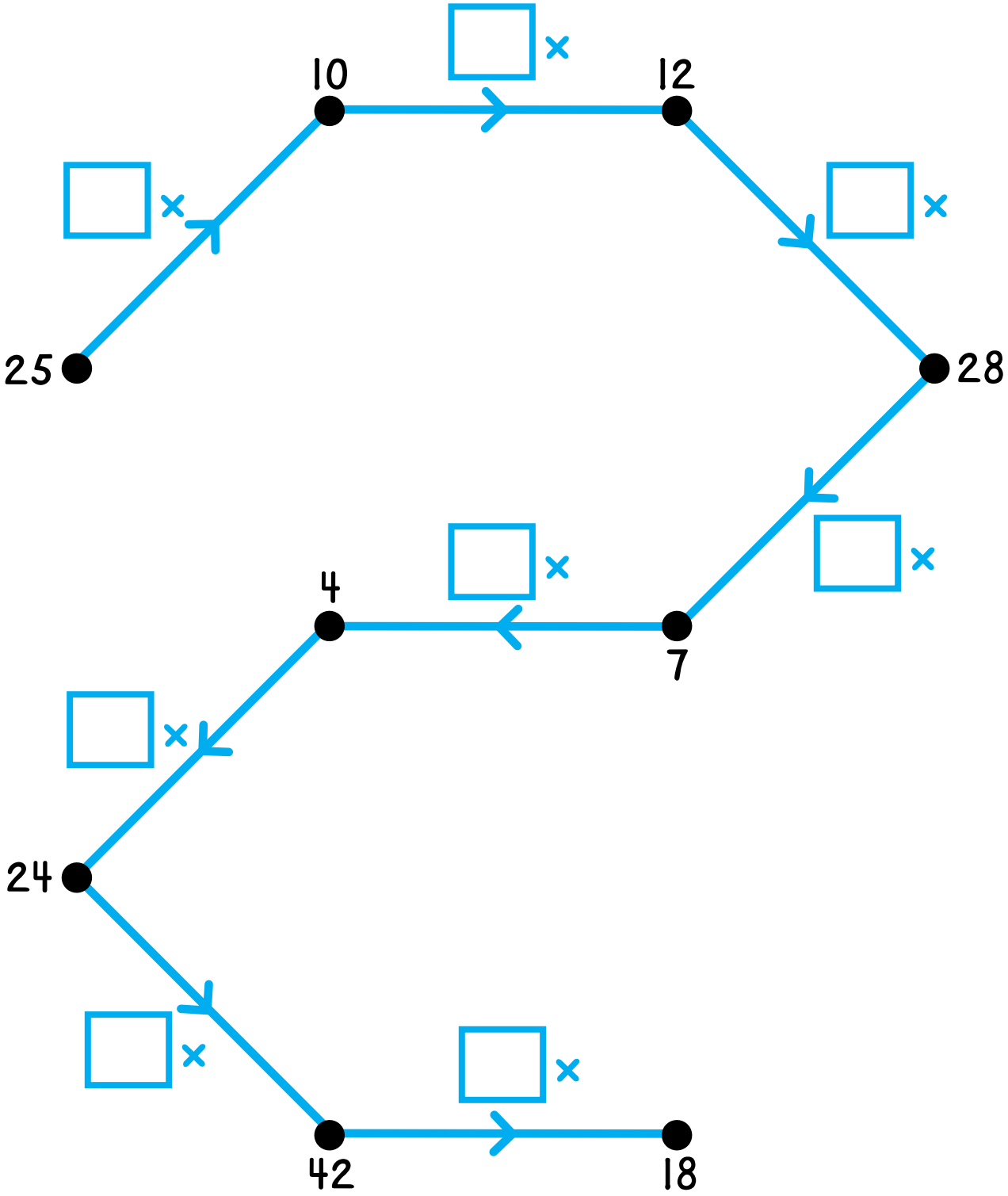
$$\frac{6}{14} \times \frac{7}{3} = \_\_\_\_\_$$

$$\frac{2}{5} \times \frac{3}{4} \times \frac{2}{3} = \_\_\_\_\_$$

Name _____

N6 **

Fill in the boxes for the arrows.



Name _____

N6 ***

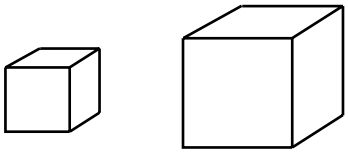
Pair the tags.

$\frac{2}{3}\times$	$\frac{5}{7}\times$
$\frac{3}{4}\times$	$\frac{20}{9}\times$
$\frac{7}{6}\times$	$\frac{5}{4}\times$
$\frac{3}{8}\times$	$+12.8$
$\frac{3}{10}\times$	$\frac{10}{9}\times$

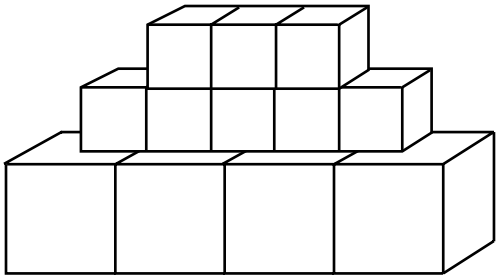
Name _____

N7(a)

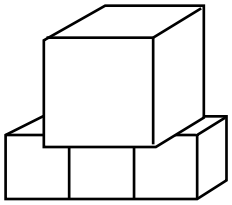
Small cubes are all of equal weight.
Large cubes are all of equal weight.



A structure with 4 large and 8 small cubes weighs 10 pounds.



A structure with 3 small and 1 large cubes weighs 3 pounds.



Find the weights of some different combinations-structures-with small and large cubes.

How many small cubes would balance a large cube? _____

How much does each kind of cube weight? small_____

large_____

Name _____

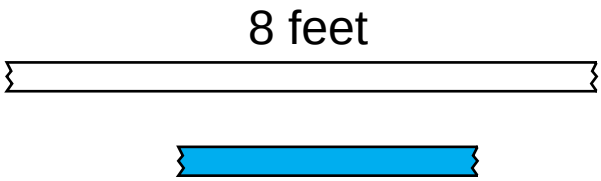
N7(b)

The fabric store sells white and blue ribbon by the foot.

Dora spent $3.92 on ribbon.
She got 5 feet of white and
6 feet of blue ribbon.

$3.92

Ted also spent $3.92 on ribbon.
He got 8 feet of white and
4 feet of blue ribbon.



$3.92

Which color ribbon costs more per foot? _____

Find the cost of some other quantities of white and blue ribbon.

Find the cost of one foot of white ribbon. _____

Find the cost of one foot of blue ribbon. _____

Name _____

N7(c)

Two hamburgers and two colas cost $4.20.

Three orders of french fries and two colas cost $3.19.

One hamburger, one order of french fries, and one cola cost $2.65.

What is the individual cost of each item?

Hamburger_____

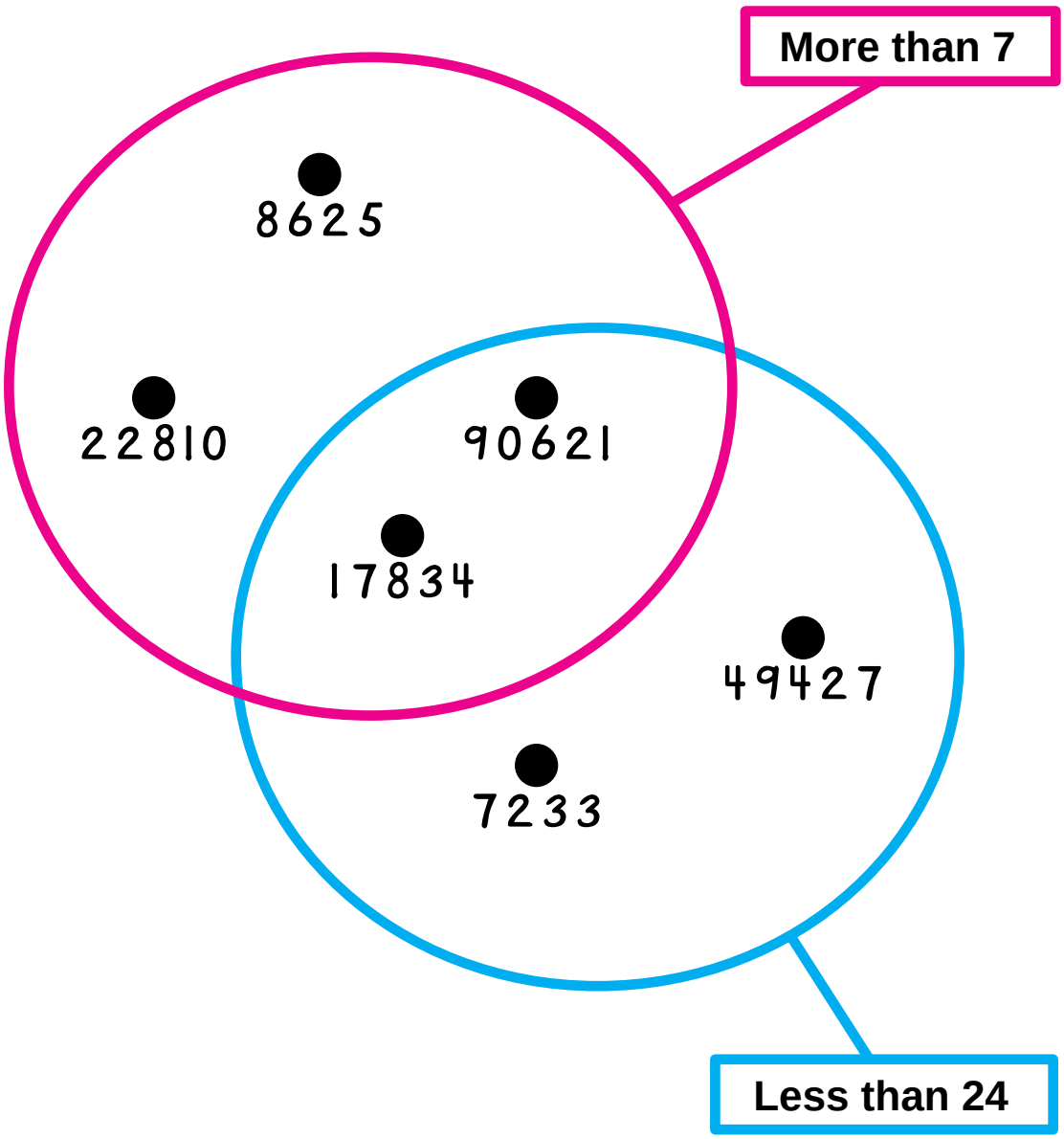
Cola_____

French Fries_____

Name _____

N8 *

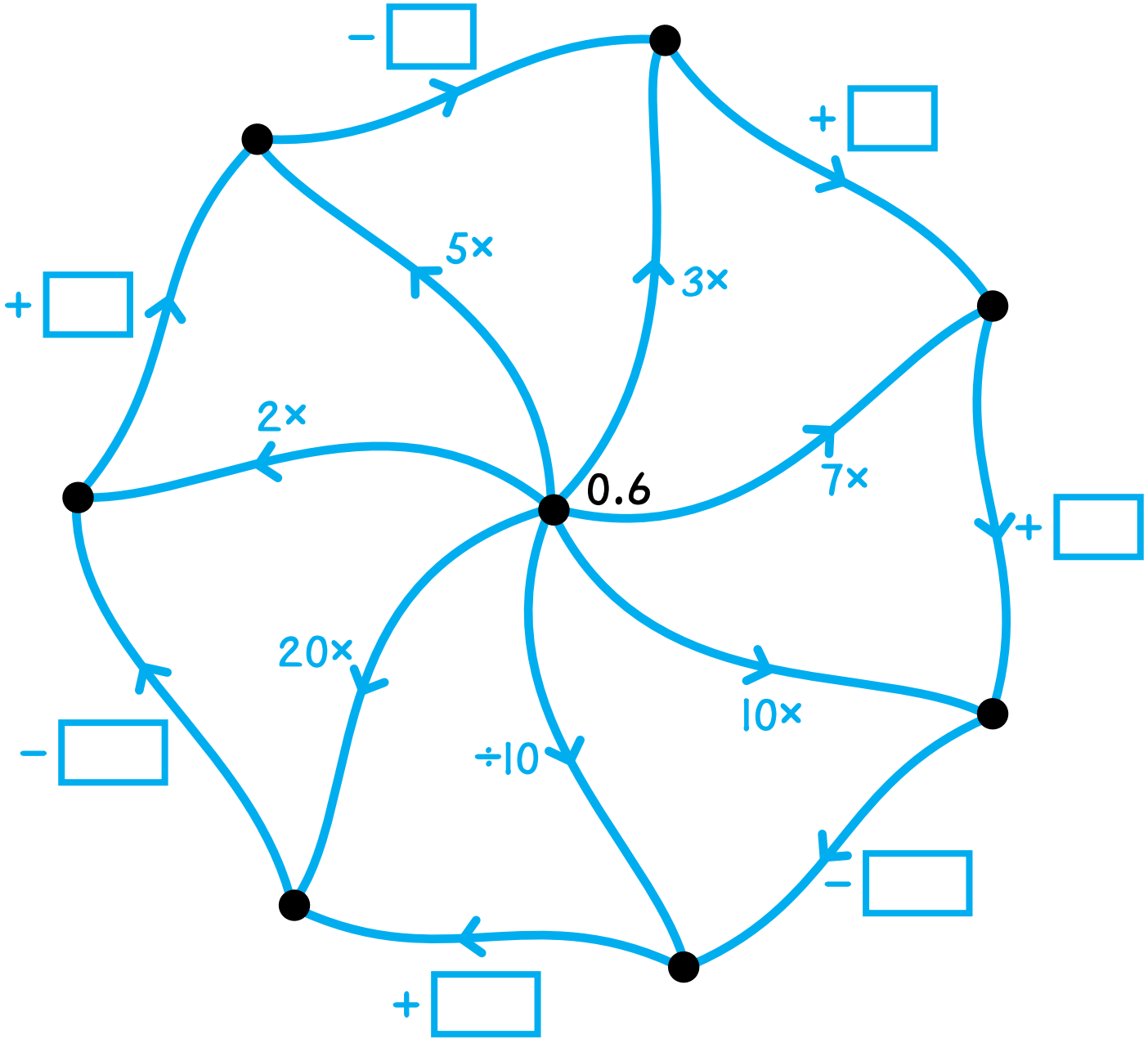
Some of the numbers in this string picture are missing a decimal point. Place a decimal point in each number so that it is in the correct region.



Name _____

N8 **

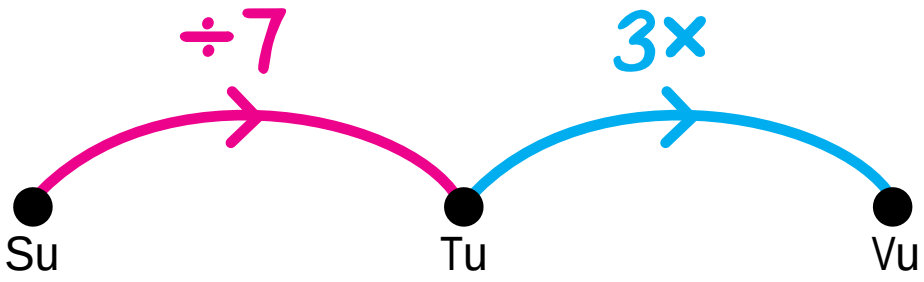
Label the dots and fill in the boxes for the arrows.



Name _____

N8 ***

Complete this table of possibilities for Su, Tu, and Vu.

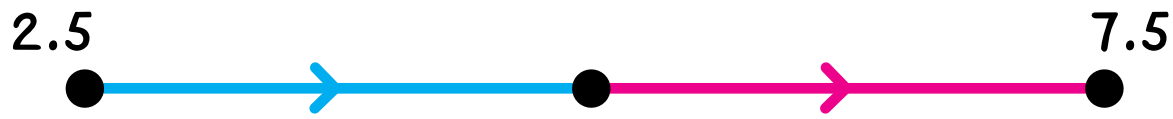


Su	Tu	Vu
560		
56 000		
5.6		
	600	
	0.6	
	0.06	
		27
		27 000
		2.7

Name _____

N8 ****

Pair the tags.

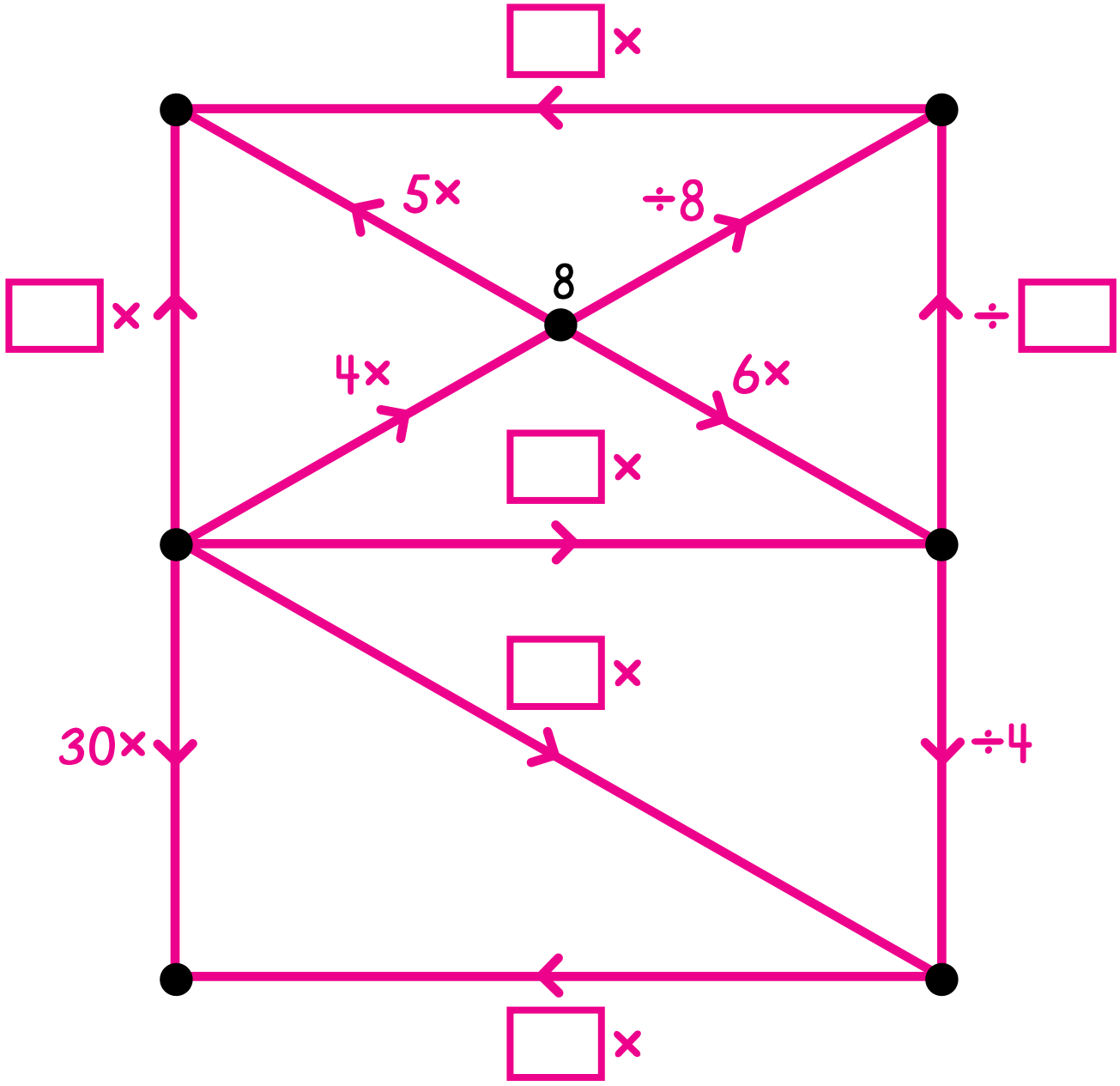


×0.2	+5.8
÷10	+2.3
−0.8	×30
×0.3	×7.5
+2.7	×15
×0.4	×10

Name _____

N9 *

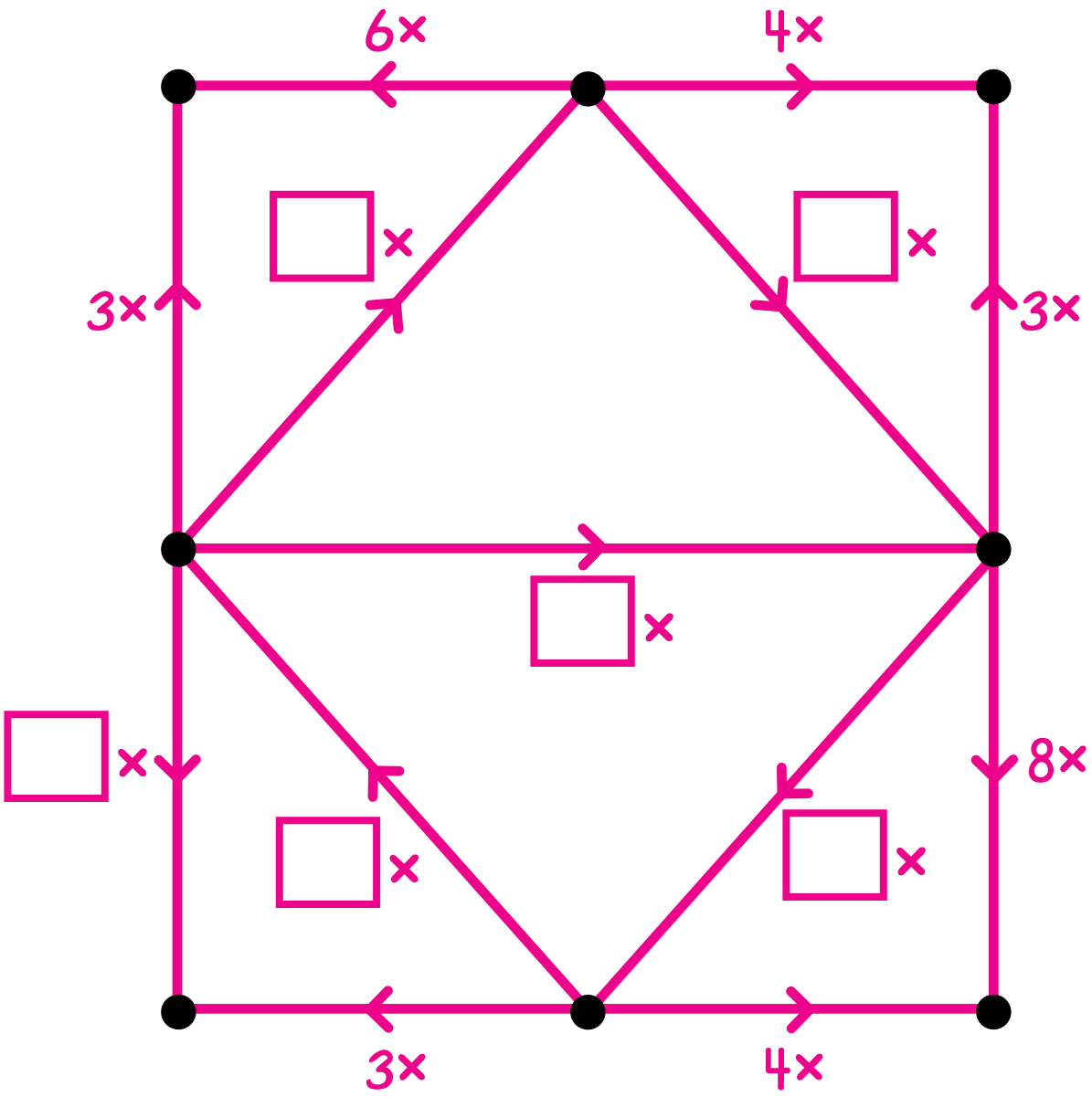
Label the dots and fill in the boxes for the arrows.



Name _____

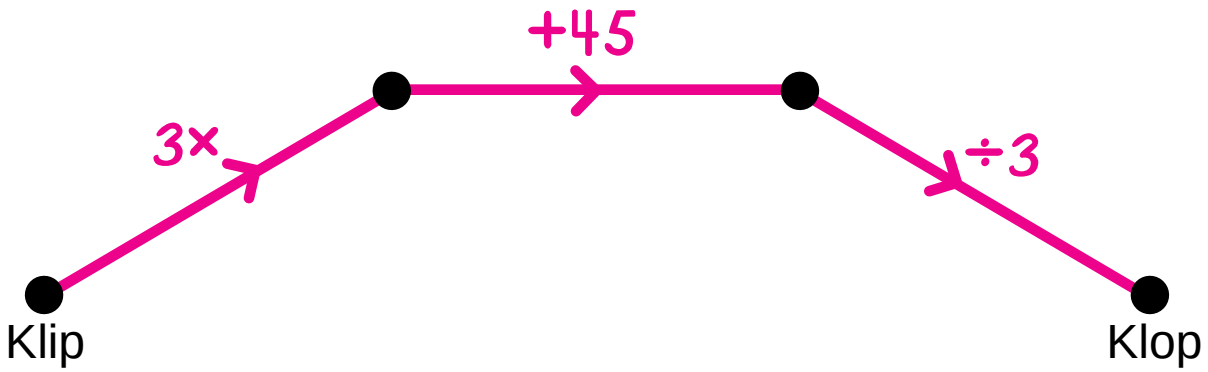
N9 **

Fill in the boxes for the arrows.



Name _____

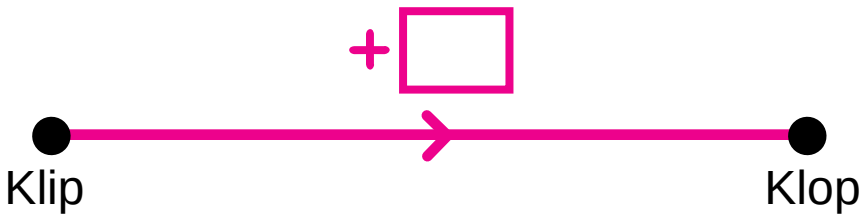
N9 ***



Complete this table of possibilities for Klip and Klop.

Klip	Klop
2	
5	
	30
0.2	
1.5	
$\hat{10}$	
	$\hat{5}$

Fill in the box for an arrow from Klip to Klop.



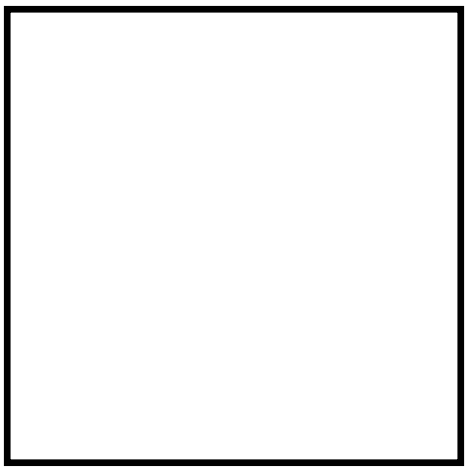
Name _____

N10 *

$$\frac{1}{3} + \frac{3}{4}$$

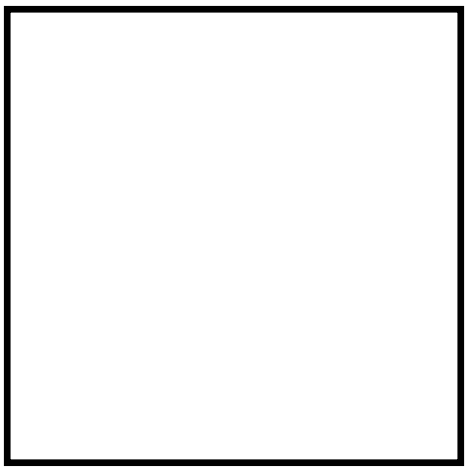
Use the pictures and a ruler to help with this addition problem.

$\frac{1}{3}$



$\frac{1}{3} =$ _____

$\frac{3}{4}$



$\frac{3}{4} =$ _____

Complete the calculation.

$$\frac{1}{3} + \frac{3}{4} = \frac{\square}{12} + \frac{\square}{12} = \_\_\_\_\_$$

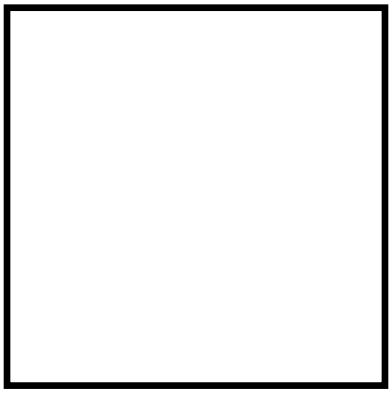
Name _____

N10 **

$$\frac{1}{2} + \frac{2}{5}$$

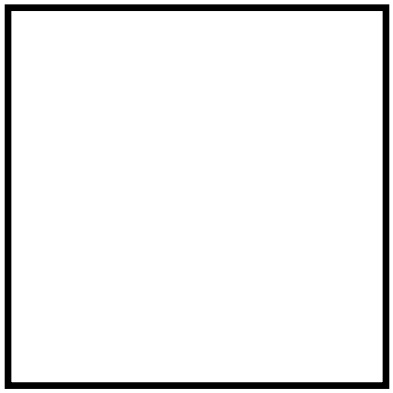
Use the pictures and a ruler to help with this addition problem.

$\frac{1}{2}$



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

$\frac{2}{5}$



$\frac{2}{5} =$ _____

Complete the calculation.

$$\frac{1}{2} + \frac{2}{5} = \frac{\square}{10} + \frac{\square}{10} = \_\_\_\_\_$$

Name _____

N10 ***

$$\frac{2}{3} + \frac{3}{5}$$

Write at least three other fractional names for each fraction. Make sure you include names for $\frac{2}{3}$ and $\frac{3}{5}$ with the same denominator.

$\frac{2}{3}$	$\frac{3}{5}$

Complete the calculation.

$$\frac{2}{3} + \frac{3}{5} = \_\_\_\_ + \_\_\_\_ = \_\_\_\_\_$$

Name _____

N10 ****

$$\frac{1}{4} + \frac{3}{10}$$

Write at least three other fractional names for each fraction. Make sure you include names for $\frac{1}{4}$ and $\frac{3}{10}$ with the same denominator.

$\frac{1}{4}$	$\frac{3}{10}$

Complete the calculation.

$$\frac{1}{4} + \frac{3}{10} = \_\_\_\_ + \_\_\_\_ = \_\_\_\_$$

Name _____

N12 *

One number in each number sentence is missing a decimal point. Put a decimal point in this number to make the equation true.

6.32 + 23.9 = 3022

71.4 − 32.615 = 38785

209.68 × 3.38 = 7087184

5.85 + 674 = 6.524

38617 − 381.77 = 4.4

7.5 × 584 = 43.8

Put decimal points in the numbers that are missing them to make the equations true.

216 × 284 = 61.344

92 × 85 = 7.82

Name _____

N12 **

$$a * b = (a \times b) + 1$$

Complete.

$5 * 8 = \square$

$70 * 3 = \square$

$7 * 70 = \square$

$9 * 7 = \square$

$\square * 8 = 33$

$3 * \square = 16$

$6 * \square = 43$

$70 * \square = 2\,801$

$\square * \triangle = 25$

$\square * \triangle = 25$

Name _____

N12 ***

Complete.

Fractional Name		Decimal Name	Fractional Name		Decimal Name
$\frac{9}{10}$	=	_____	_____	=	0.7
$\frac{24}{10}$	=	_____	_____	=	6.2
$\frac{27}{100}$	=	_____	_____	=	0.87
$\frac{9}{100}$	=	_____	_____	=	4.31
$\frac{3}{5}$	=	_____	$\frac{13}{20}$	=	_____

Name _____

N12 ****

$$a * b = (a \times b) + 1$$

Complete.

$2 * 0.3 =$ ☐ $5 * 0.9 =$ ☐

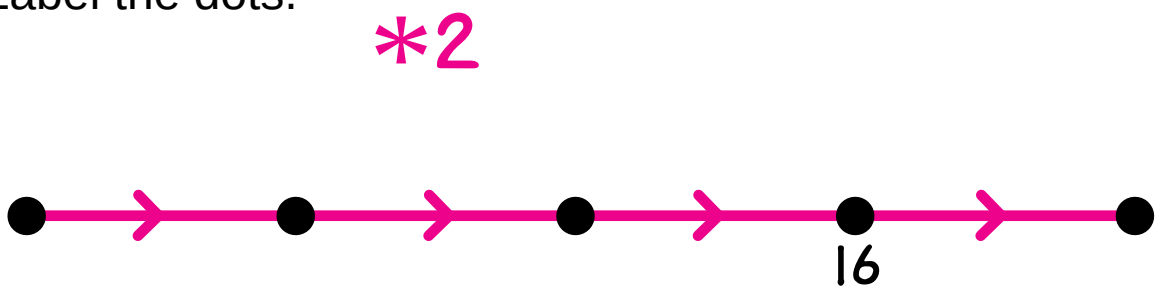
$0.9 * 8 =$ ☐ $0.9 * 0.8 =$ ☐

$8 *$ ☐ $= 3.4$ $0.3 *$ ☐ $= 1.18$

Put the same number in each box.

☐ $*$ ☐ $= 122$ ☐ $*$ ☐ $= 1.04$

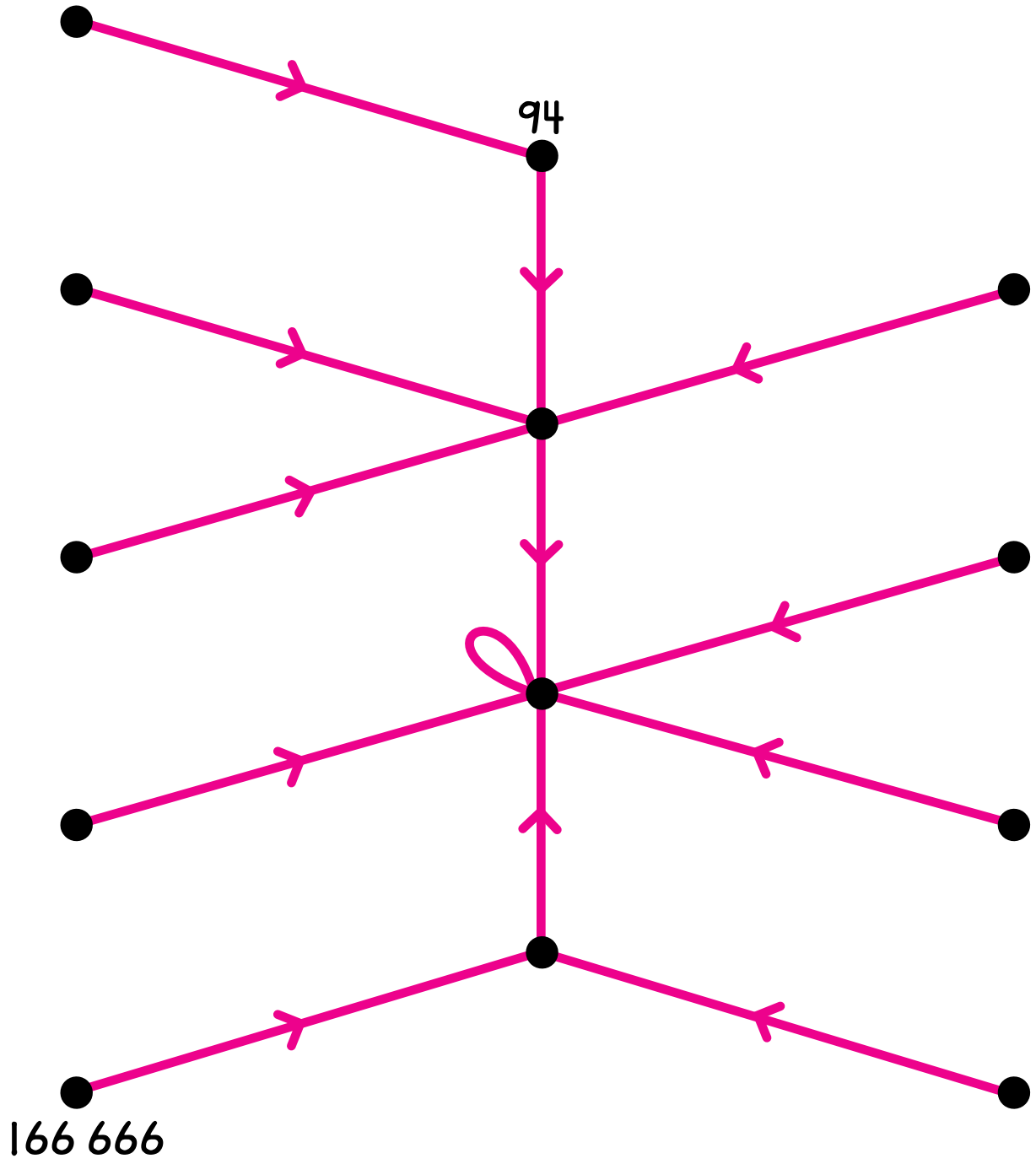
Label the dots.



Name _____

N14(a)

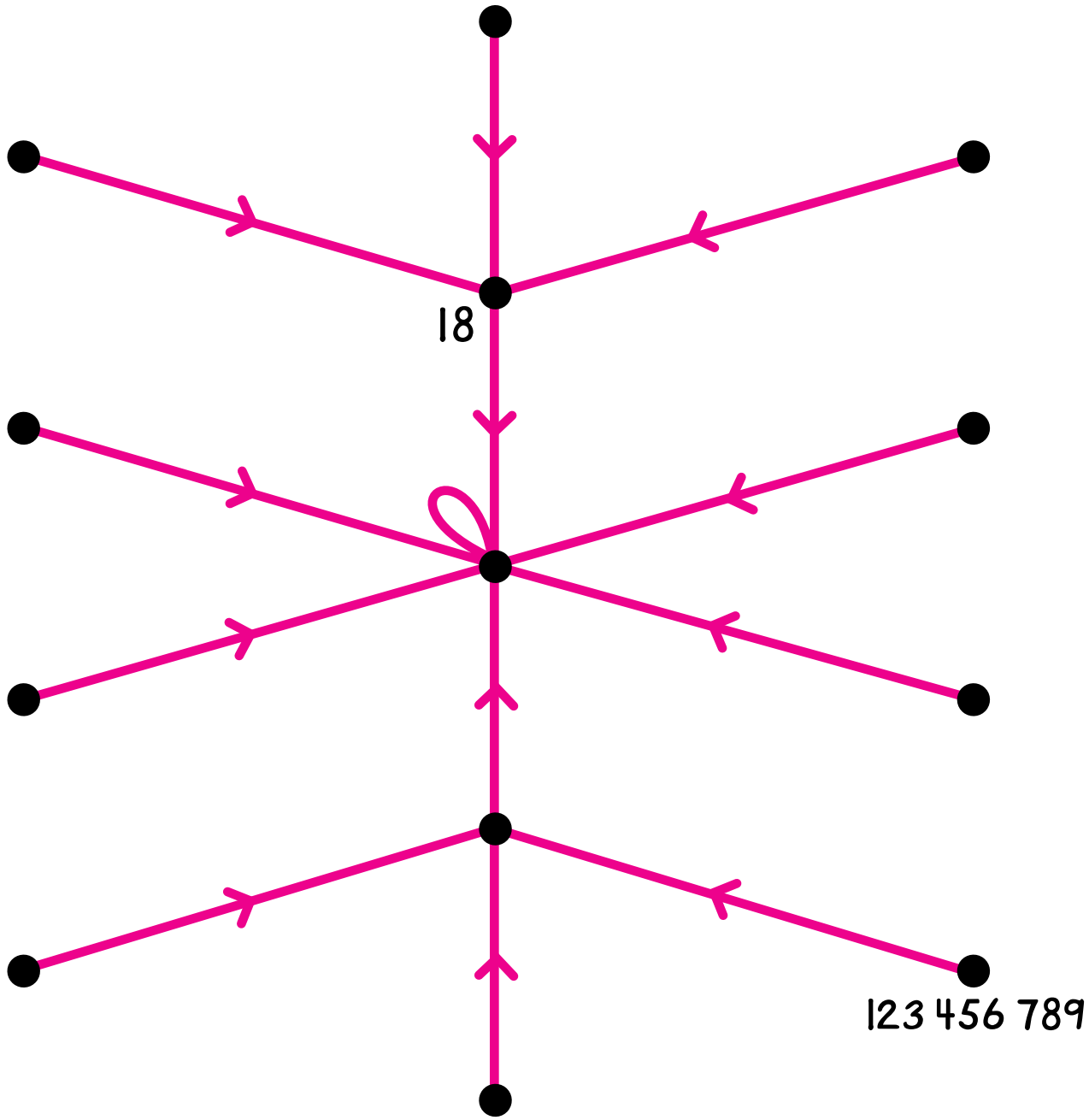
Label the dots. Many solutions are possible.



Name _____

N14(b)

Label the dots. Many solutions are possible.



Name _____ N15 *

Complete.

50% of 80 = ☐ 10% of 80 = ☐

25% of 80 = ☐ 20% of 80 = ☐

75% of 80 = ☐ 100% of 80 = ☐

Use the above results to help solve these problems.

40% of 80 = ☐ ☐% of 80 = 24

45% of 80 = ☐ ☐% of 80 = 48

95% of 80 = ☐ ☐% of 80 = 68

Name _____

N15 **

Complete this table of test results for a 60 question true-false test.

Student	Number Correct	% Correct
Wanda	60	
Randy		50%
Evan		60%
Khanh		80%
Brock	54	
Angela	42	

If 70% or better is a passing grade on this test, who passes? _____

How many questions must a person get correct to have a passing grade? _____

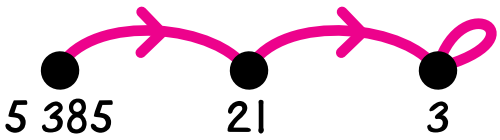
Name _____

N16 *

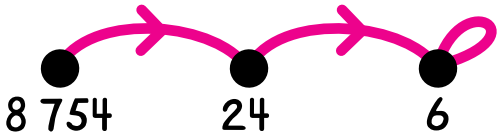
□ : multiple of 9

△ : whole number less than 9

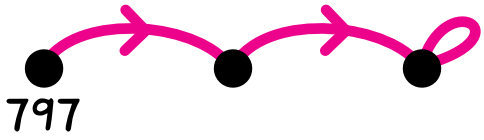
Complete. Two problems are done for you.



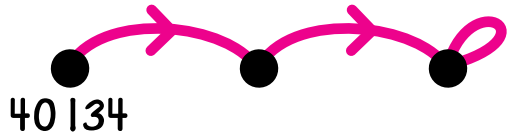
5 385 = 5 382 + 3



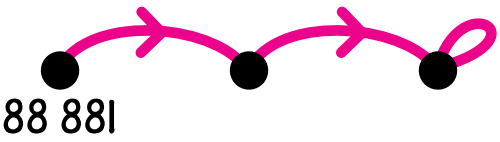
8 754 = 8 748 + 6



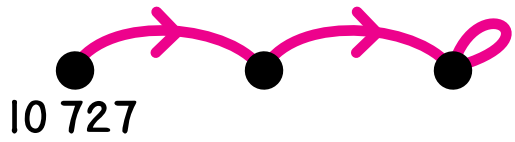
797 = □ + △



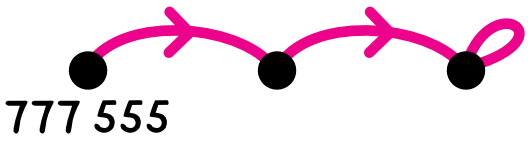
40 134 = □ + △



88 881 = □ + △



10 727 = □ + △



777 555 = □ + △

Name _____

N16 **

Flip = 67 □ 34 △

Clue 1

Flip is a multiple of 9.

List the numbers Flip could be.

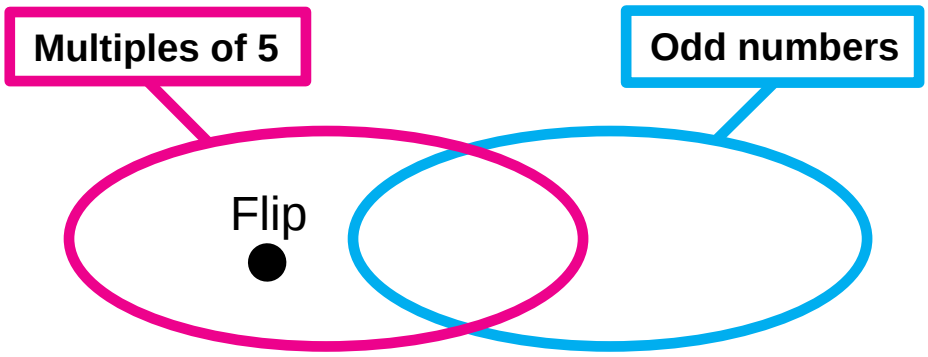
67 □ 34 △ 67 □ 34 △ 67 □ 34 △

67 □ 34 △ 67 □ 34 △ 67 □ 34 △

67 □ 34 △ 67 □ 34 △ 67 □ 34 △

67 □ 34 △ 67 □ 34 △

Clue 2

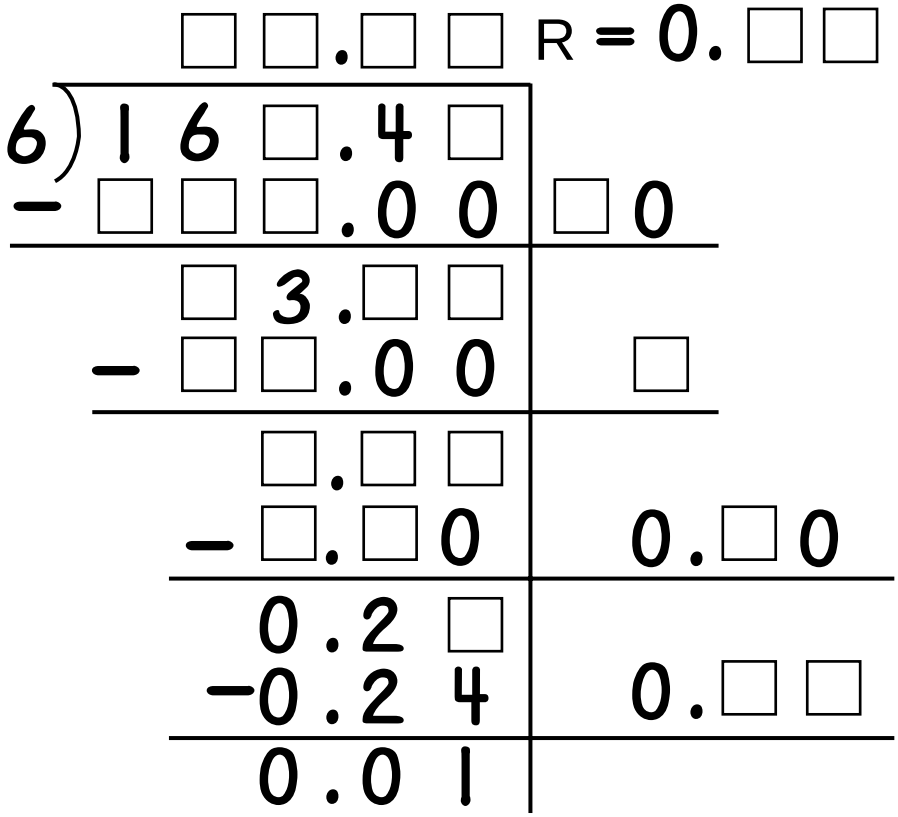


Who is Flip? _____

Name _____

N18 *

Put a single digit in each box to complete this division calculation.



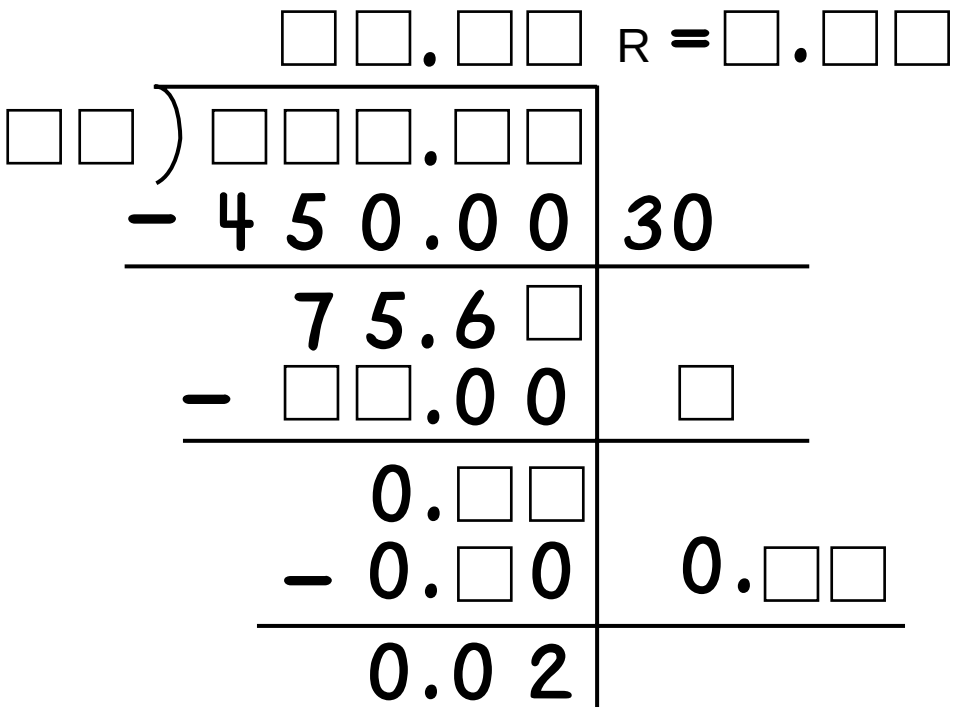
Divide.

67)1205.28

Name _____

N18 **

Put a single digit in each box to complete this division calculation.



Divide.

125)3576.06

Name _____

N20 *

One number in each number sentence is missing a decimal point. Put a decimal point in this number to make the equation true.

0.798 + 256.3 + 9.462 = 2 6 6 5 6

86.37 − 27.826 = 5 8 5 4 4

346.718 + 2 2 8 6 9 = 575.408

41.164 − 3 5 7 5 = 5.414

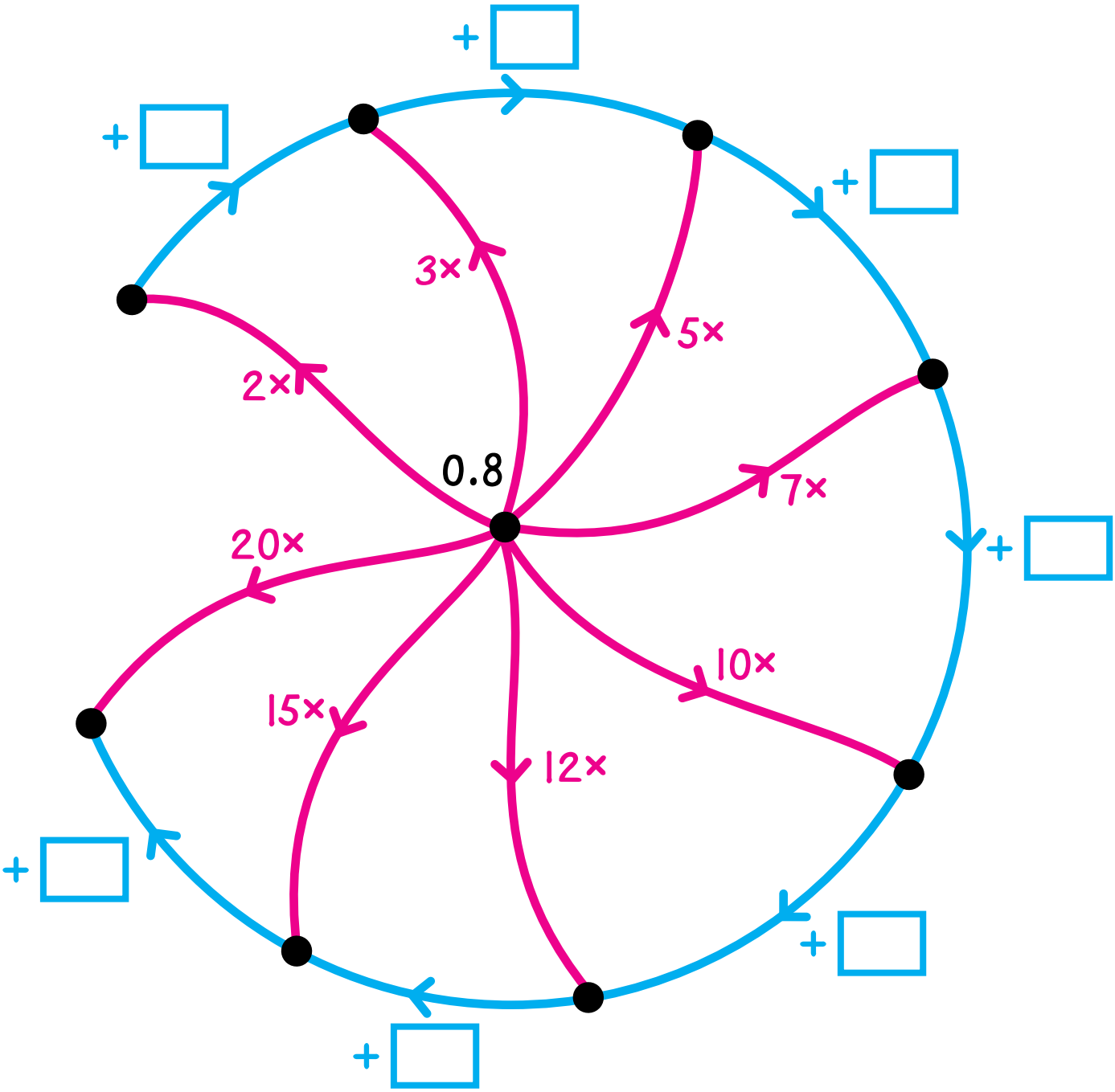
83.05 × 4.63 = 3 8 4 5 2 1 5

7.27 × 3 1 9 2 = 232.0584

Name _____

N20 **

Label the dots and fill in the boxes for the arrows.



Name _____

N20 ***

Add.

$83 + 127.26 + 0.074$

$17.6 + 56.147 + 329.62$

Subtract.

$59.403 - 17.83$

$364.1 - 71.47$

Name _____

N20 ****

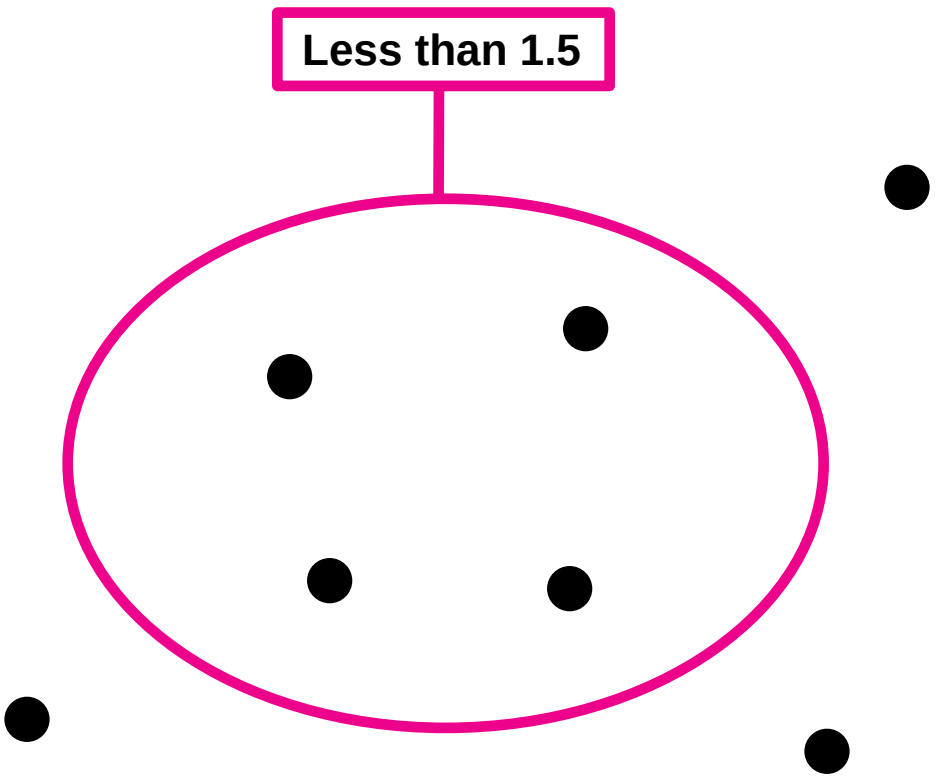
Label the dots with these numbers. One is done for you.

Some numbers have two names. Write both names near their dots.

5×0.3 0.5×0.3 2×0.8 0.2×0.8

$\frac{1}{2} \times 0.3$ 30×0.05 $\frac{1}{2} \times 1.5$

$3.1 - 1.5$ $2 - 1.84$ 10×0.05 20×0.14



Name _____

N22 *

$$\frac{a}{b} = \frac{c}{d}$$

a	c
b	d

$$a \times d = b \times c$$

Complete.

3	6
5	

2	5
4	

3	4
	12

5	
6	30

10	4
	6

5	
35	28

	9
14	21

6	
15	20

	15
12	18

Name _____

N22 **

Complete.

$\frac{18}{30} = \frac{\square}{10}$ $\frac{18}{30} = \frac{\square}{60}$ $\frac{18}{30} = \frac{9}{\square}$

$\frac{18}{30} = \frac{180}{\square}$ $\frac{18}{30} = \frac{3}{\square}$ $\frac{18}{30} = \frac{\square}{240}$

Find at least four names for each fraction.

$\frac{4}{9}$: : _____

$\frac{7}{12}$: : _____

Add.

$\frac{4}{9} + \frac{7}{12} =$ _____

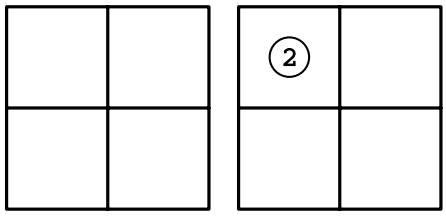
Name _____

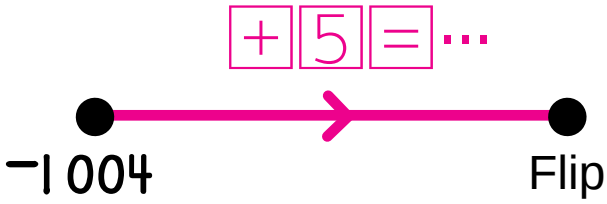
N22 ***

Flip and Flop are secret whole numbers.
The rule for this square is the same as on Worksheet N22*.

9	Flop
Flip	8

Flop can be put on this Minicomputer by adding exactly one of these checkers:





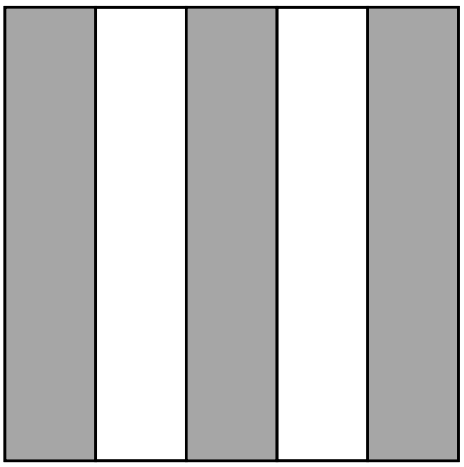
Who is Flip? _____

Who is Flop? _____

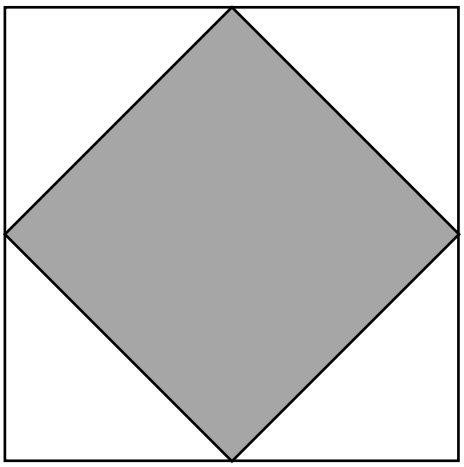
Name _____

N23(a)

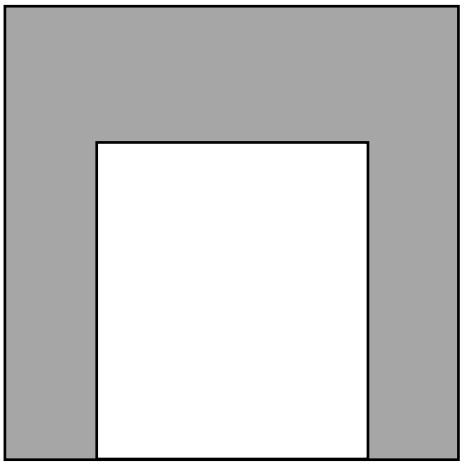
Percent Shaded



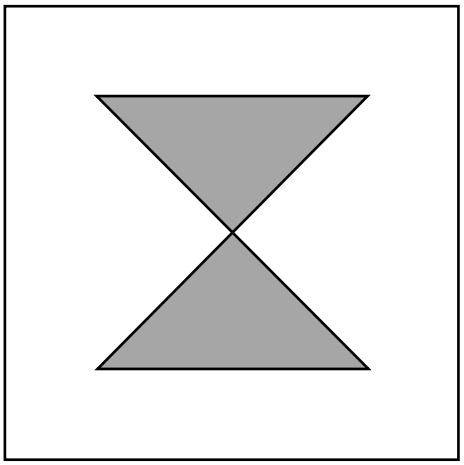
Estimate _____ Actual _____



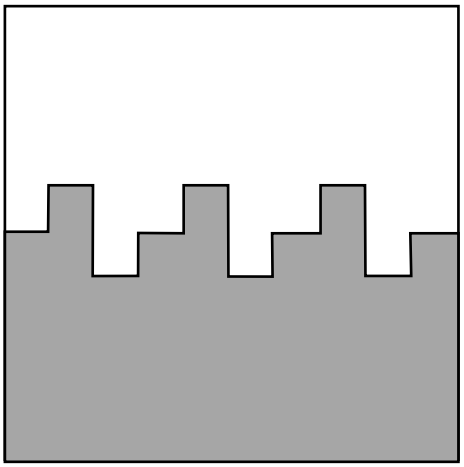
Estimate _____ Actual _____



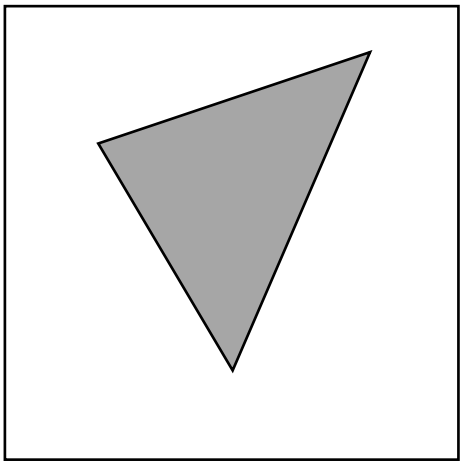
Estimate _____ Actual _____



Estimate _____ Actual _____



Estimate _____ Actual _____

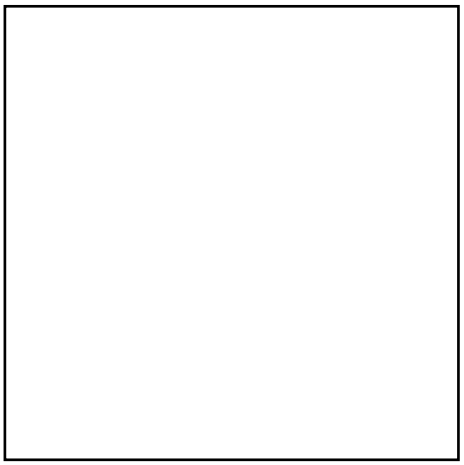


Estimate _____ Actual _____

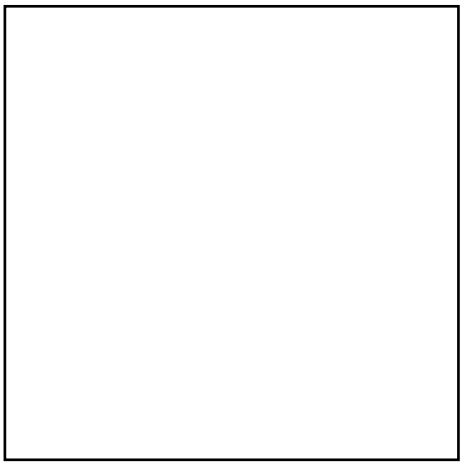
Name _____

N23(b)

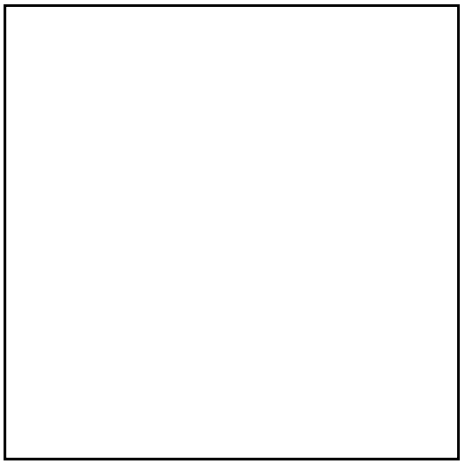
Draw and shade a shape that covers the given percent of each square.



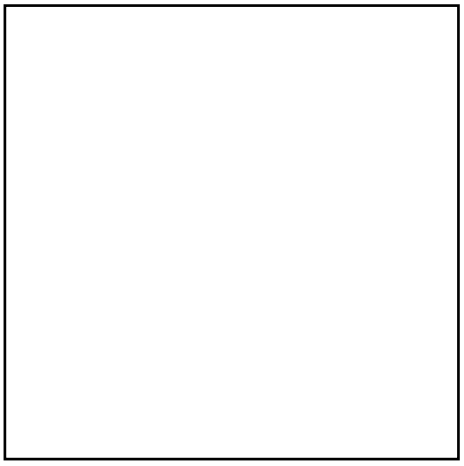
25%



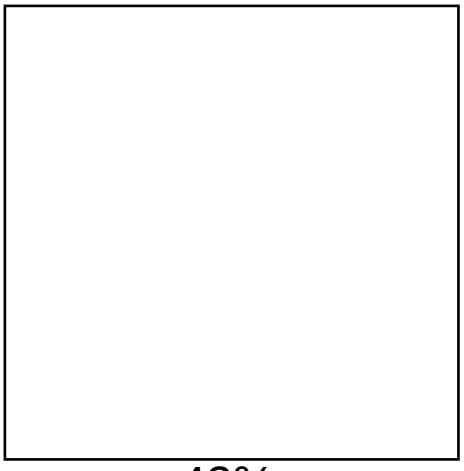
70%



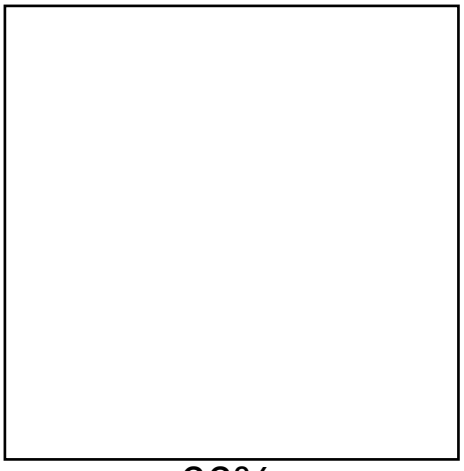
85%



10%



42%

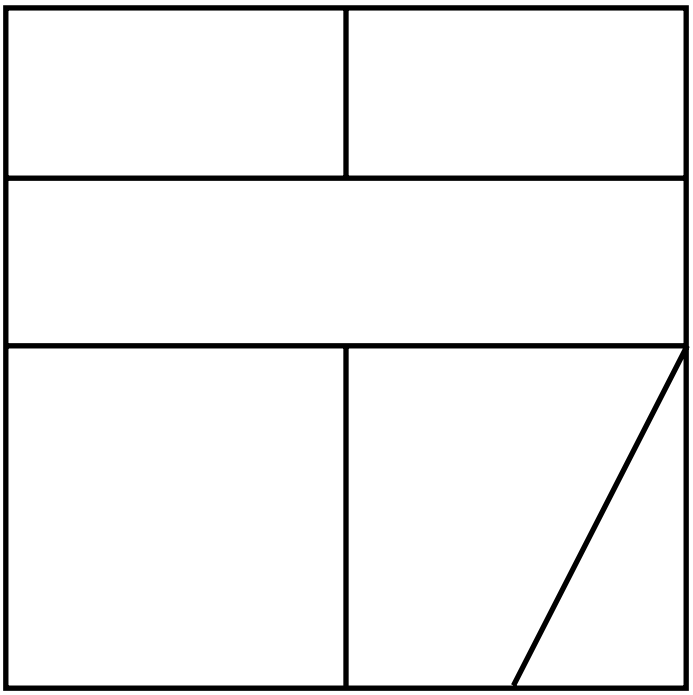


66%

Name _____

N24

Mr. Booker has a square cake cut into six pieces. He wants to collect a total of $20 for the whole cake.



Label each piece of the cake to show:

- the fraction of the cake
- the cost it should be

Sara has $7.50 to spend. What pieces could she buy? _____

What fraction of the cake will she get? _____

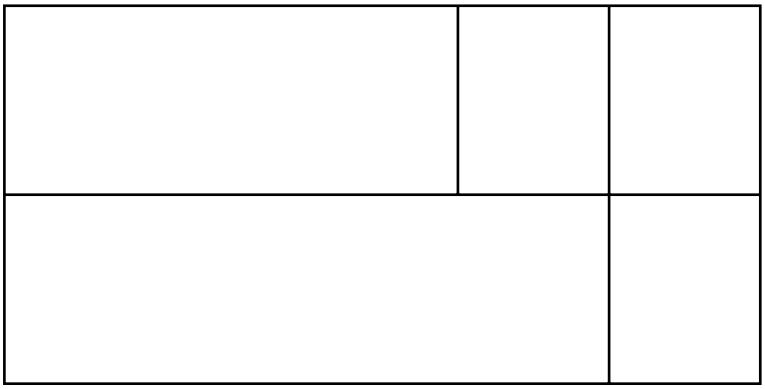
Amelia wants to get $\frac{5}{16}$ of the cake. What pieces could she get? _____

What will be the cost? _____

Name _____

N24 *

This rectangular cake costs $25.



Label each piece of the cake to show:

- the fraction of the cake
- the cost it should be

Sara wants to buy one-half of the cake.

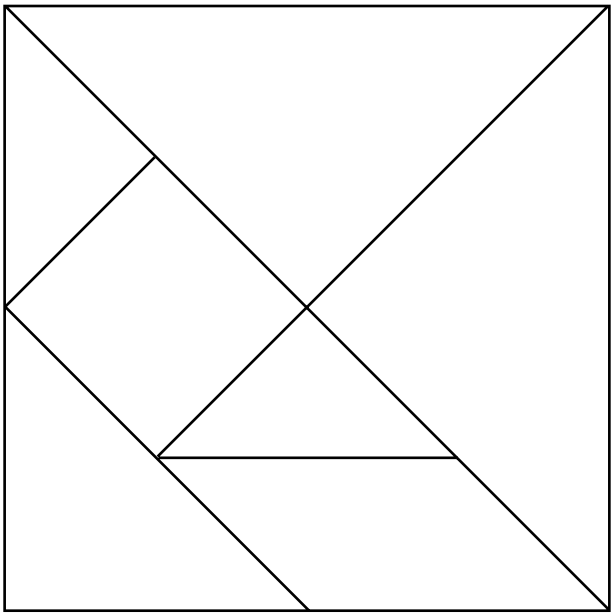
Which pieces could she get? _____

How much would one-half of the cake cost? _____

Name _____

N24 **

This Tangram cake costs $40.



Label each piece of the cake to show:

- the fraction of the cake
- the cost it should be

Amelia wants to buy all the triangle pieces.

What fraction of the cake does she want? _____

How much would she have to pay? _____

Name _____

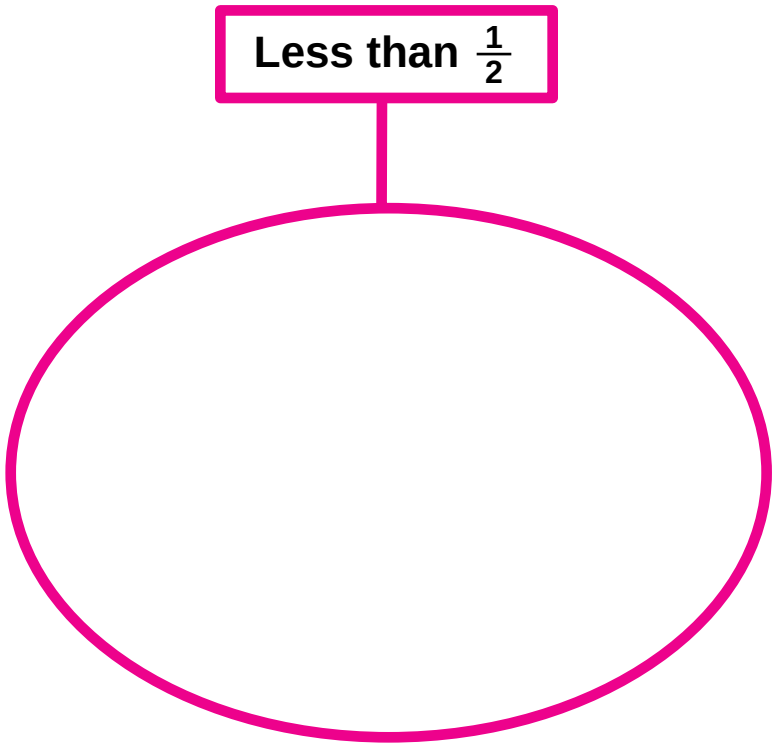
N28 *

Place these numbers in the string picture. Some numbers are listed twice. Label dots for those numbers with both names.

0.7 $\frac{1}{4} + \frac{3}{4}$ $\frac{1}{2} \times \frac{1}{3}$

$\frac{2}{10} + \frac{5}{10}$ $\frac{3}{2} \times \frac{2}{3}$ 0.1 $\frac{5}{6} - \frac{4}{6}$

$\frac{1}{5} \times \frac{1}{2}$ 0.25 $\frac{1}{3} + \frac{1}{4}$



There should be six dots in your picture.

Name _____

N28 **

Pair each blue tag with a red tag.

$\frac{3}{4} + \frac{17}{12}$

$1 - \frac{5}{7}$

$\frac{3}{5} \times \frac{5}{3}$

$\frac{2}{3} + \frac{3}{2}$

$\frac{1}{2} \times \frac{4}{7}$

$2 - \frac{1}{3}$

$4 \times \frac{5}{12}$

$3 \times \frac{3}{12}$

0.75

$\frac{6}{11} + \frac{5}{11}$

Name _____

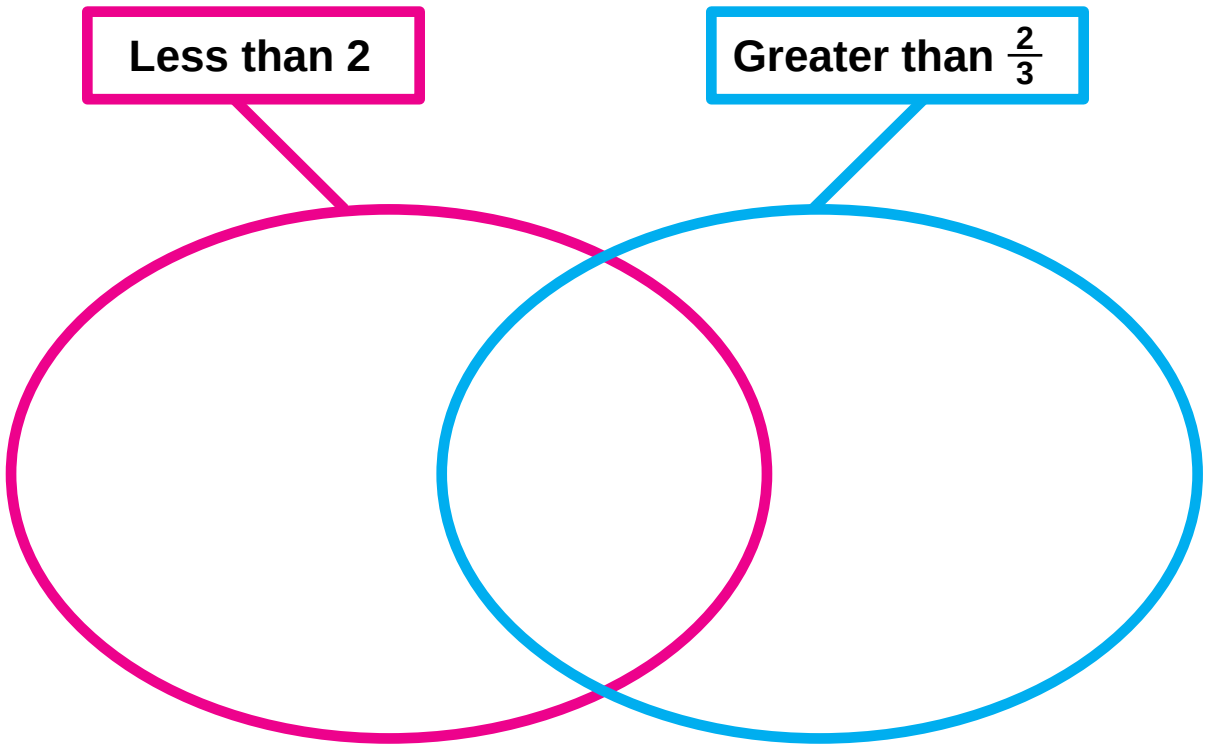
N28 ***

Place these numbers in the string picture.

1.2 $\frac{1}{2}$ $\frac{3}{4} + \frac{5}{4}$ 0.6

$\frac{2}{5} \times \frac{5}{2}$ $\frac{1}{2} \times 4$ $\frac{3}{5}$ $\frac{2}{10} + \frac{3}{10}$

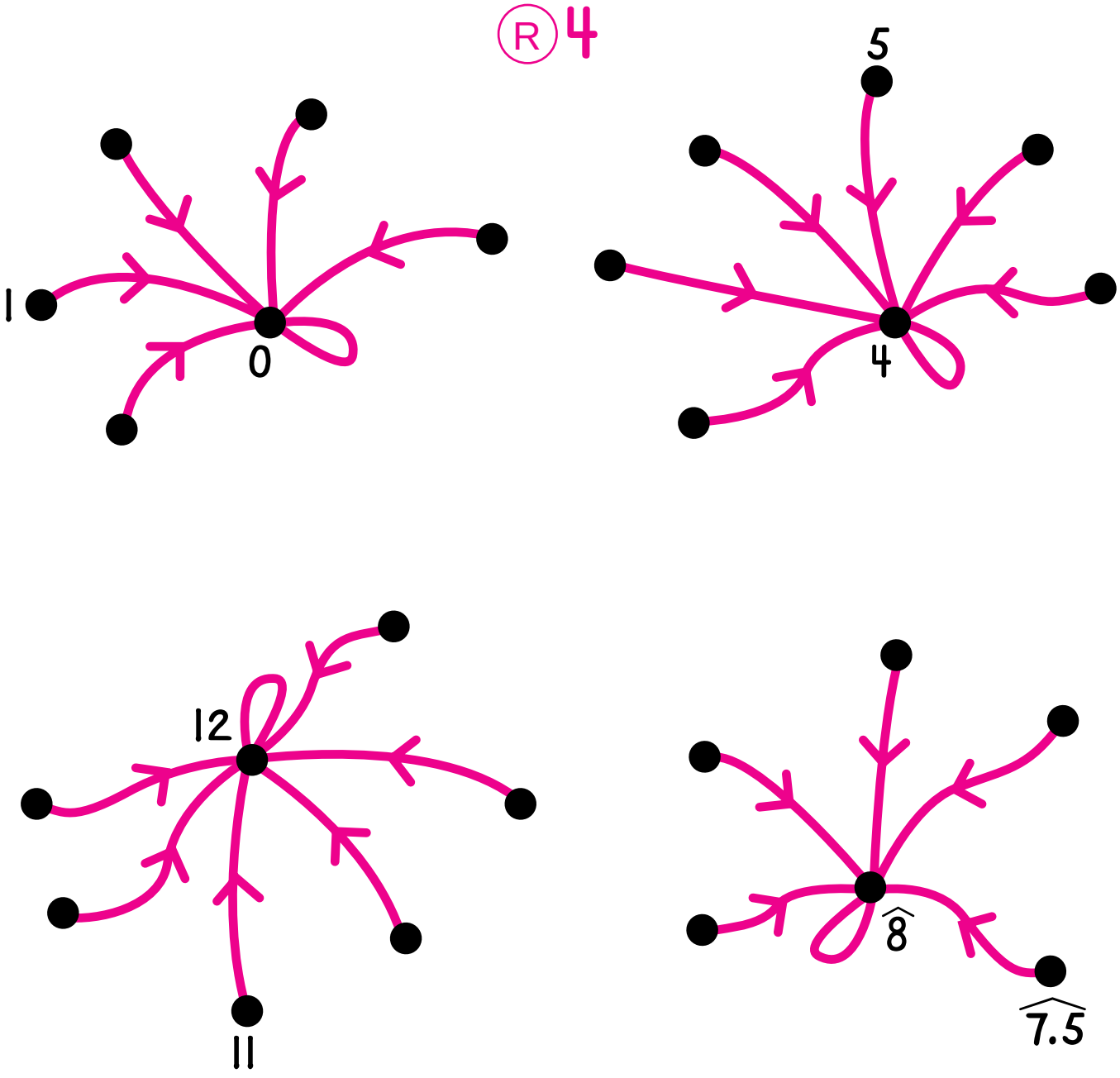
$\frac{6}{5}$ 2.5 $\frac{2}{7} + \frac{5}{7}$ $2 \times \frac{5}{4}$



Name _____

N29(a)

Label the dots. Many solutions are possible.

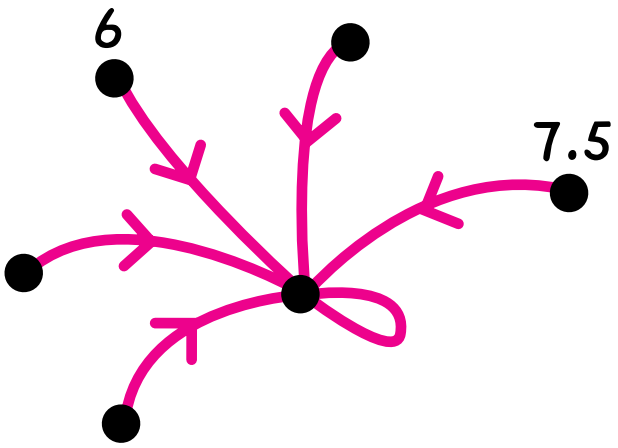


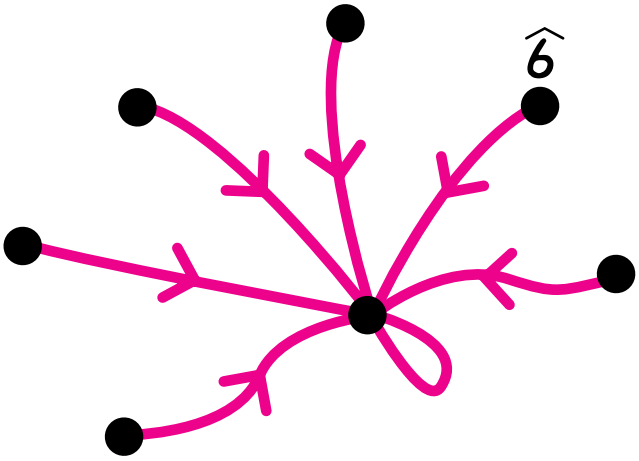
Name _____

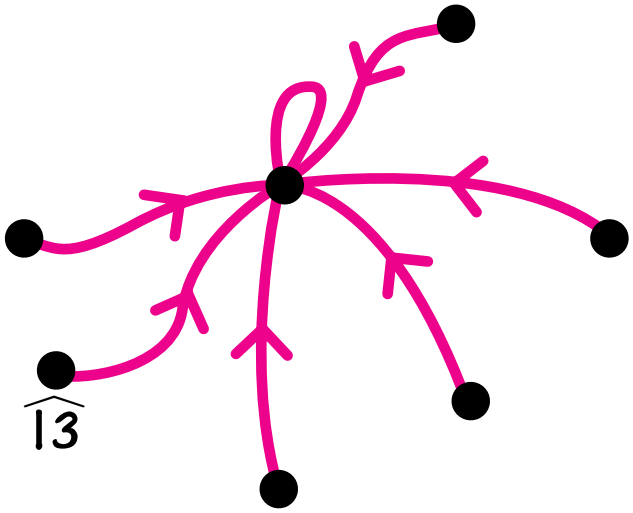
N29(b)

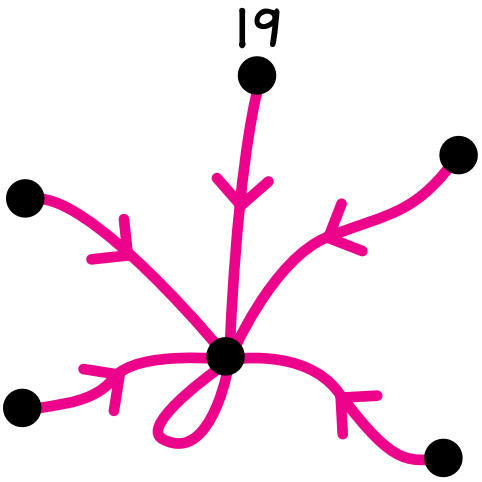
Label the dots.

R 4









Name _____

N30 *

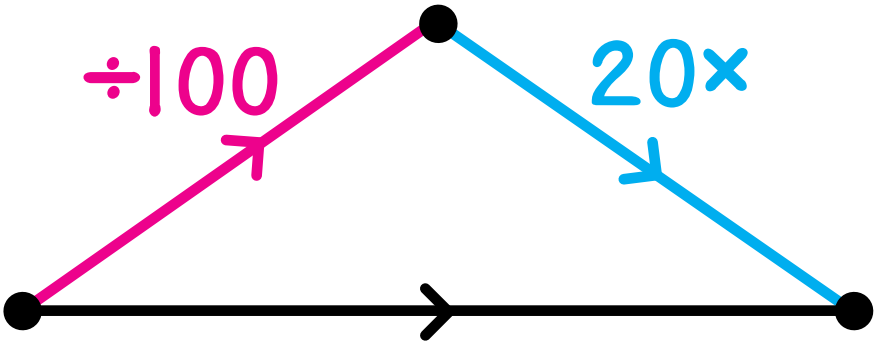
Complete.

50% of 120 =	100% of 32 =
25% of 120 =	50% of 32 =
10% of 120 =	150% of 32 =
5% of 120 =	75% of 32 =
15% of 120 =	25% of 32 =
35% of 120 =	125% of 32 =
10% of 40 =	50% of 68 =
5% of 40 =	25% of 68 =
15% of 40 =	75% of 68 =
20% of 40 =	10% of 68 =
40% of 40 =	35% of 68 =
45% of 40 =	85% of 68 =

Name _____

N30 **

Label the black arrow.



☐ × or ☐ % of

Give two other names for the black arrow: ☐ × or ☐ ×

Complete.

20% of 15 = ☐ 20% of 35 = ☐

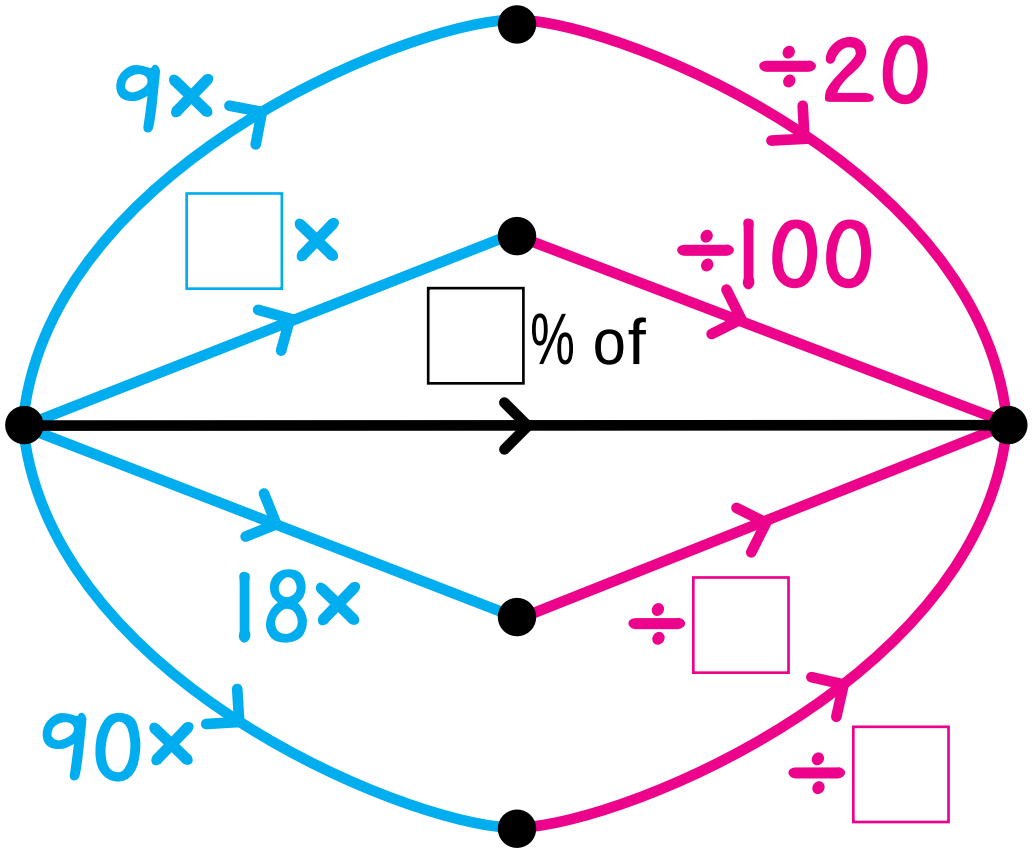
20% of 60 = ☐ 20% of 42 = ☐

20% of ☐ = 60 20% of ☐ = 42

Name _____

N30 ***

Label the arrows.



Complete.

$\frac{9}{20}$ × 200 = □

45% of 80 = □

45% of 200 = □

45% of 18 = □

45% of □ = 270

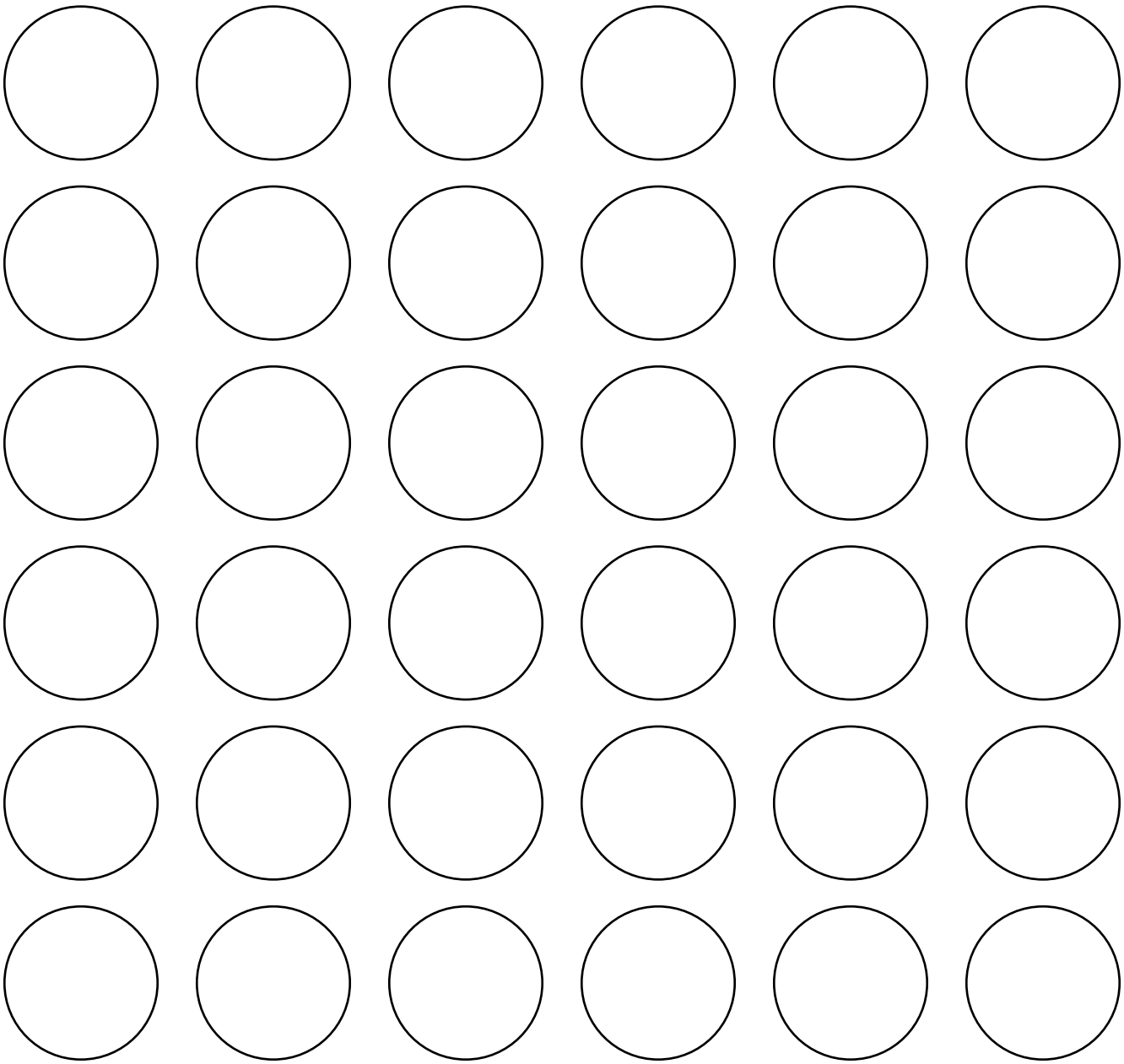
45% of □ = 18

Name _____

N31

There are 36 pies shown below. All the pies are used to put $\frac{3}{4}$ pie in each basket. How many baskets receive pie? _____

You may divide the pies in the picture or use another method to answer this question.



Name _____

N32 *

Zot is a secret number.

Clue 1

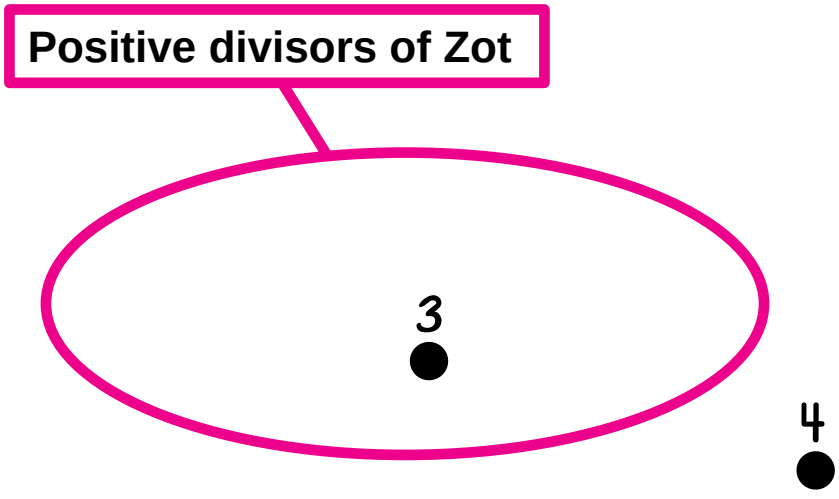
Zot is an even number and Zot's name can be completed by putting a single digit in the box.

Zot = 96 73 ☐

Zot could be _____, _____, _____, _____,

or _____.

Clue 2



Who is Zot? _____

Name _____

N32 **

For each number on the left check whether it is divisible by 2, 3, 4, 5, 6, 8, 9, or 10. For example, the Xs in the table show 5 560 is divisible by 2, 4, 5, 8, and 10.

is divisible by	2	3	4	5	6	8	9	10
5 560	X		X	X		X		X
320 787								
82 386								
11 881								
1 080								
118 852								
12 115								
21 060								
102 246								
10 072								
394 581								

Name _____

N32 ***

Flop = 56 08 ☐

Flop's name can be completed by choosing at random exactly one of the ten digits 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9 to put in the box.

Find the probability that:

Flop is divisible by 2 _____

Flop is divisible by 3 _____

Flop is divisible by 4 _____

Flop is divisible by 5 _____

Flop is divisible by 6 _____

Flop is divisible by 7 _____

Flop is divisible by 8 _____

Flop is divisible by 9 _____

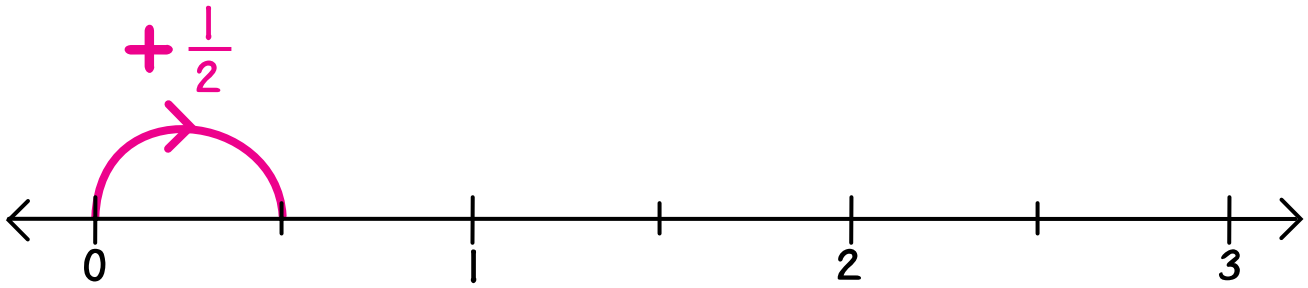
Flop is divisible by 10 _____

Name _____

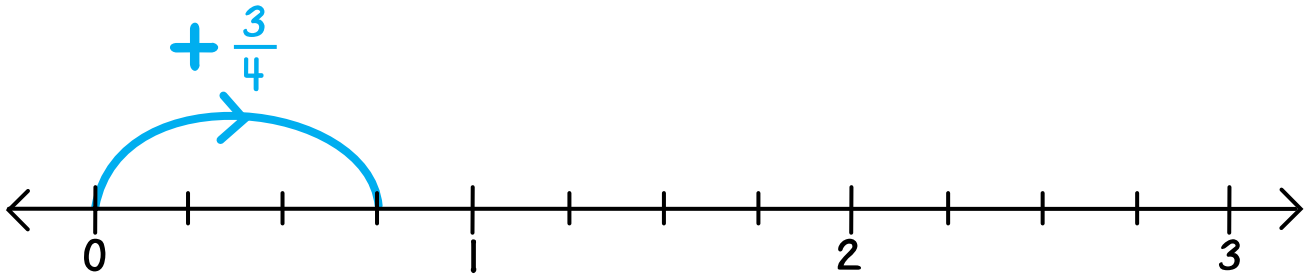
N33 *

Draw arrows on each number line to help do the calculation.

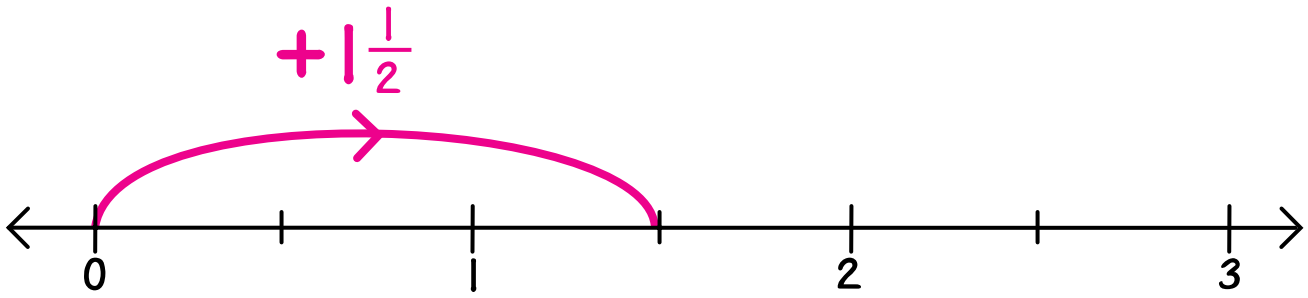
$3 \div \frac{1}{2} = \_\_\_\_\_$



$3 \div \frac{3}{4} = \_\_\_\_\_$



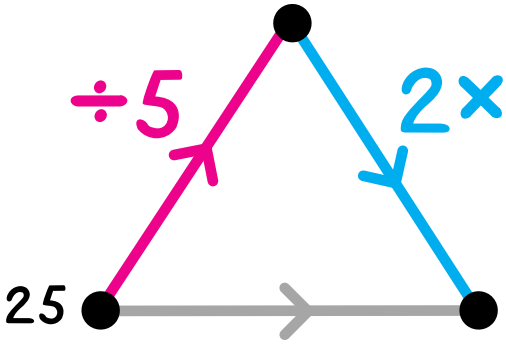
$3 \div 1\frac{1}{2} = \_\_\_\_\_$



Name _____

N33 **

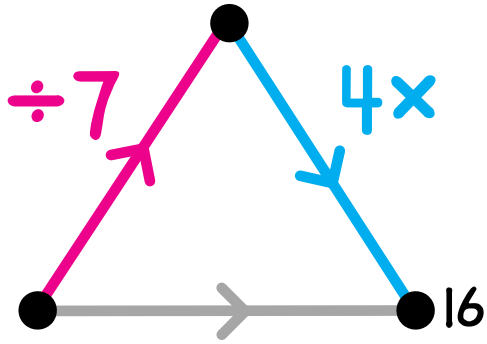
Label the dots and fill in the boxes for the arrows.



□ × □

or

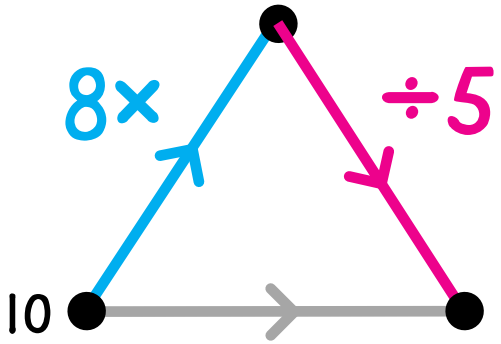
□ ÷ □



□ × □

or

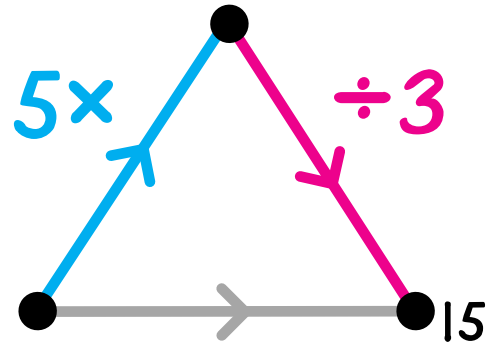
□ ÷ □



□ × □

or

□ ÷ □



□ × □

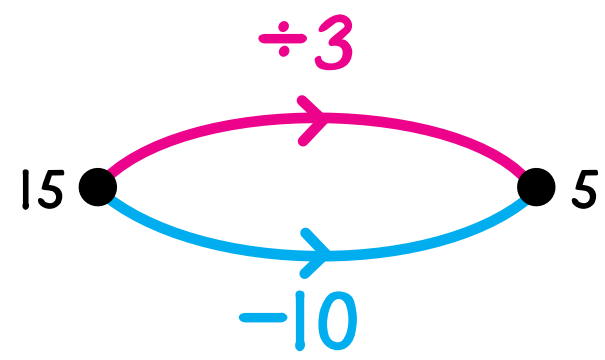
or

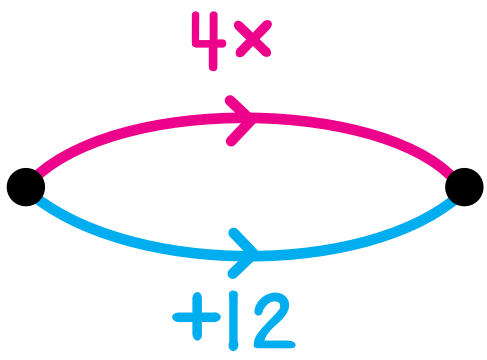
□ ÷ □

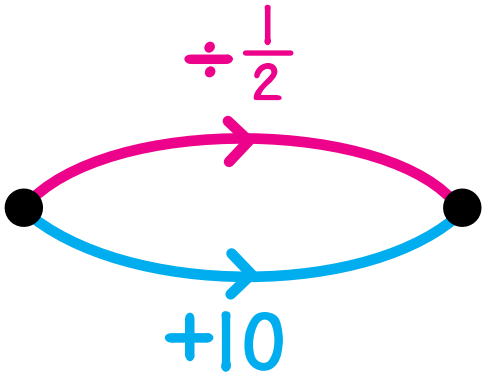
Name _____

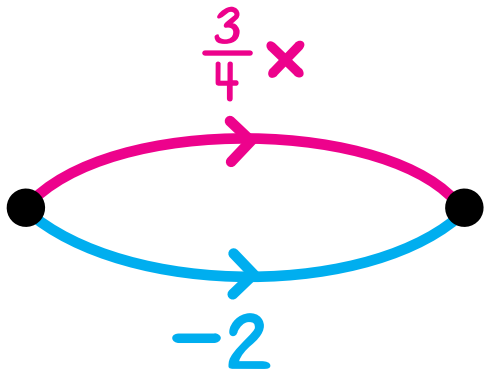
N33 ***

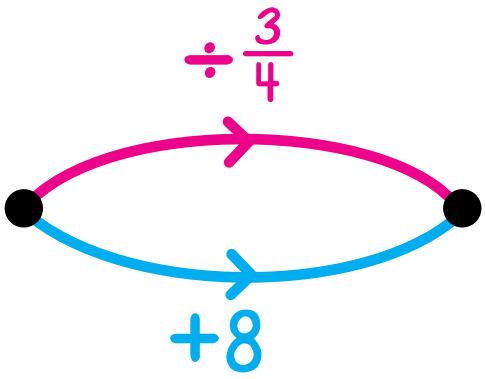
Label the dots.

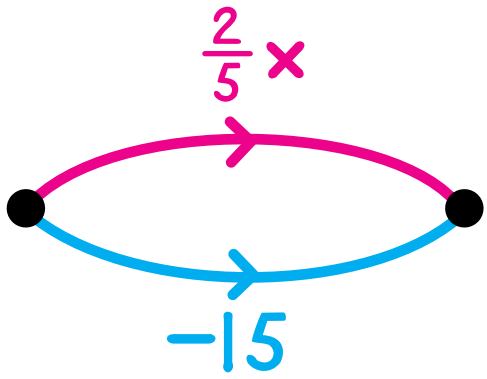










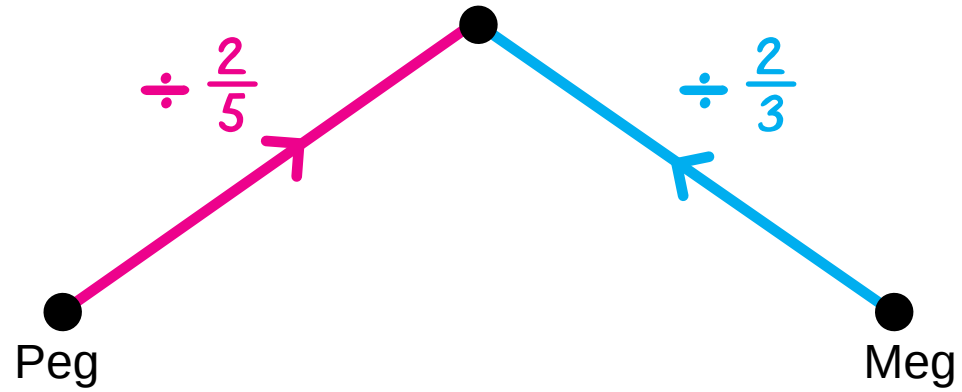


Name _____

N33 ****

Peg and Meg are secret whole numbers less than 75.

Clue 1



Peg														
Meg														

Clue 2

T_D	Peg	Meg
6	1	1
4	1	1

Who is Peg? _____

Who is Meg? _____

Name _____

N35

Complete the tables.

×	$\frac{1}{2}$	$\frac{3}{4}$
$\frac{2}{3}$		
$\frac{3}{2}$		

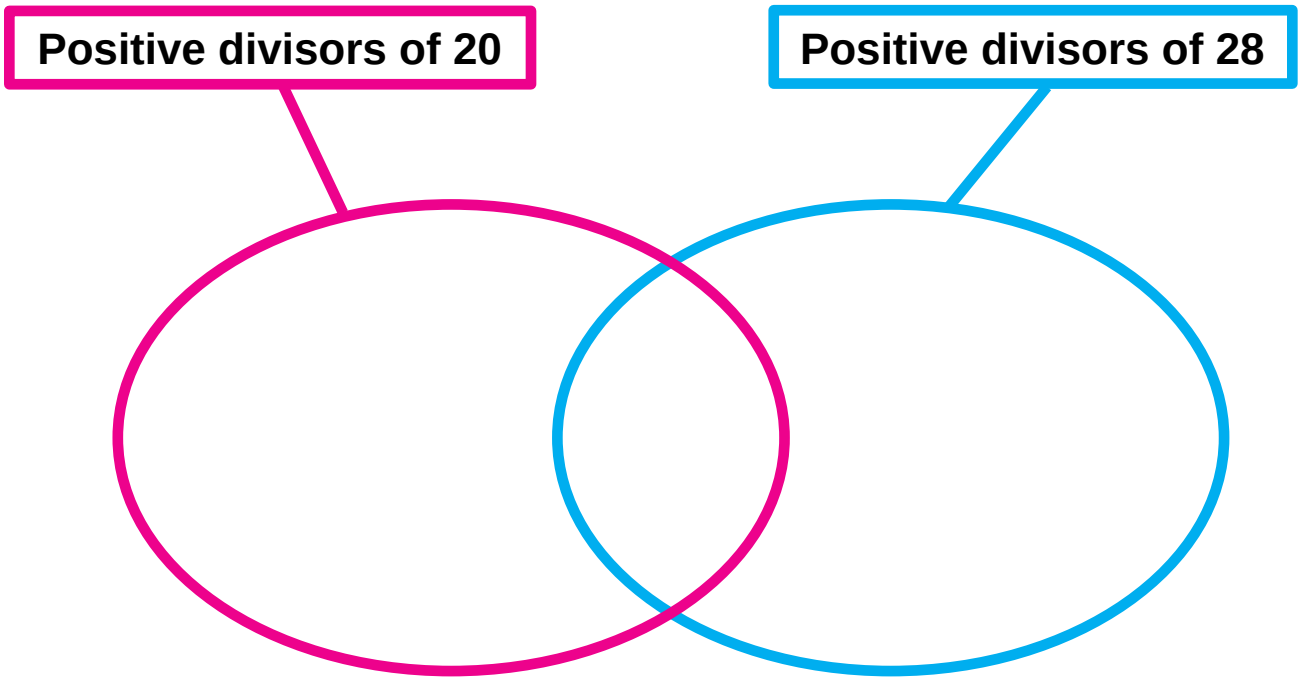
÷	$\frac{1}{2}$	$\frac{3}{4}$
$\frac{2}{3}$		
$\frac{3}{2}$		

+	$\frac{1}{2}$	$\frac{3}{4}$
$\frac{2}{3}$		
$\frac{3}{2}$		

Name _____

L2 *

Put all of the positive divisors of 20 and of 28 in this string picture.



Complete these number sentences.

20 ⊓ 28 = _____

10 ⊓ 28 = _____

35 ⊓ 28 = _____

Name _____

L2 **

Zim is a secret whole number.

Clue 1

Zim $\square$ 24 = 72

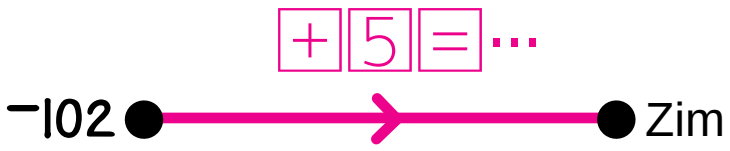
Zim could be _____, _____, _____, or _____.

Clue 2

Zim $\sqrt{\ }$ 30 = 6

Zim could be _____, _____, or _____.

Clue 3



Who is Zim? _____

Name _____

L2 ***

Pom is a secret whole number.

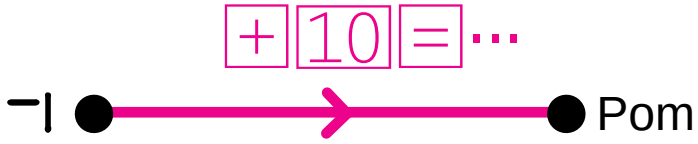
Clue 1

Pom ⌈⌉ 28 = 7

Find a pattern for the numbers that Pom could be.

Pom could be ____, ____, ____, ____, ____, ____, ____, ____, ____, ____, ____, and so on.

Clue 2



Find a pattern for the numbers that Pom could be.

Pom could be ____, ____, ____, ____, ____, ____, and so on.

Clue 3

In this list, Pom is the greatest number less than 1000.

Who is Pom? _____

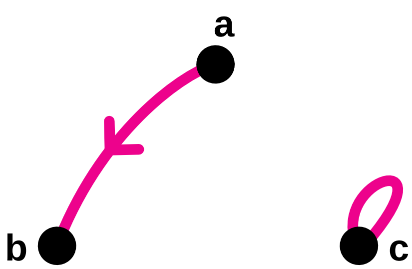
Name ____________________

L3 *

Complete the grid and find the code number for each arrow picture.

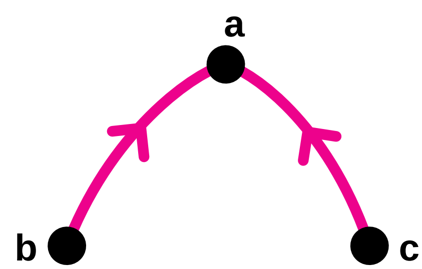
Code Number __________

c			
b			
a			
	a	b	c



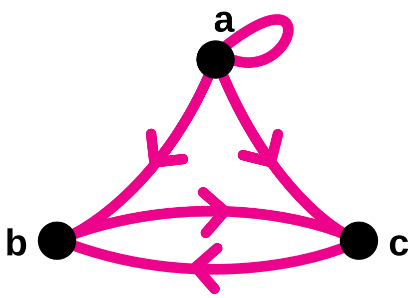
Code Number __________

c			
b			
a			
	a	b	c



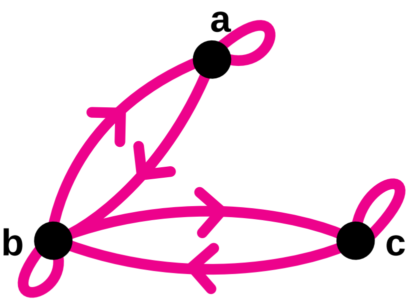
Code Number __________

c			
b			
a			
	a	b	c



Code Number __________

c			
b			
a			
	a	b	c

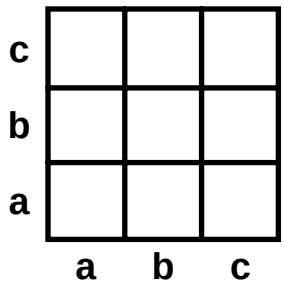


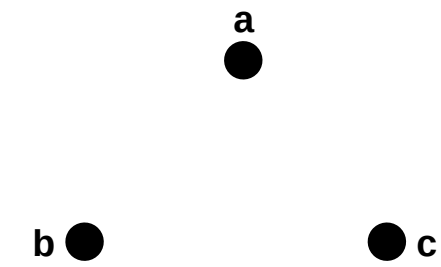
Name _____

L3 **

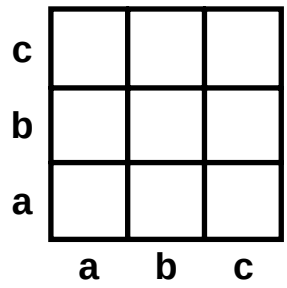
Complete the grid and draw the arrow picture for each code number.

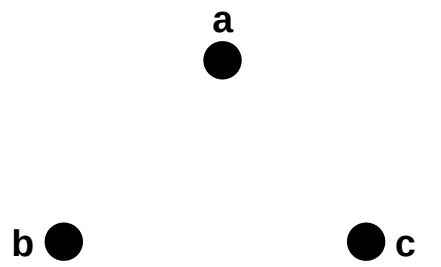
Code Number 35



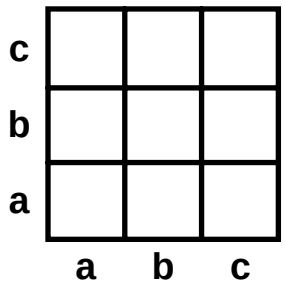


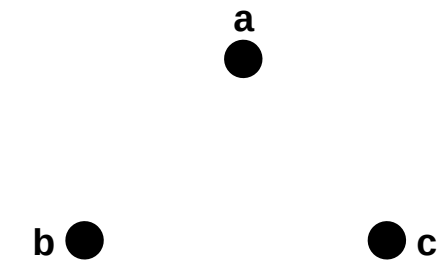
Code Number 15



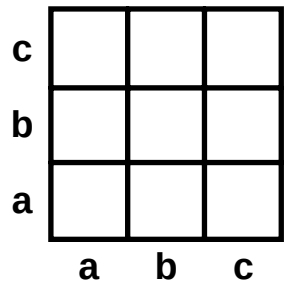


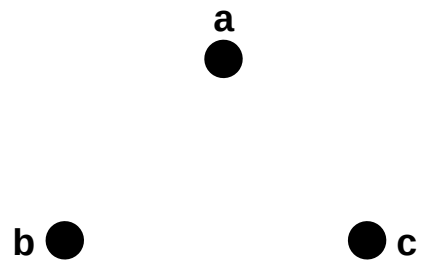
Code Number 94





Code Number 340

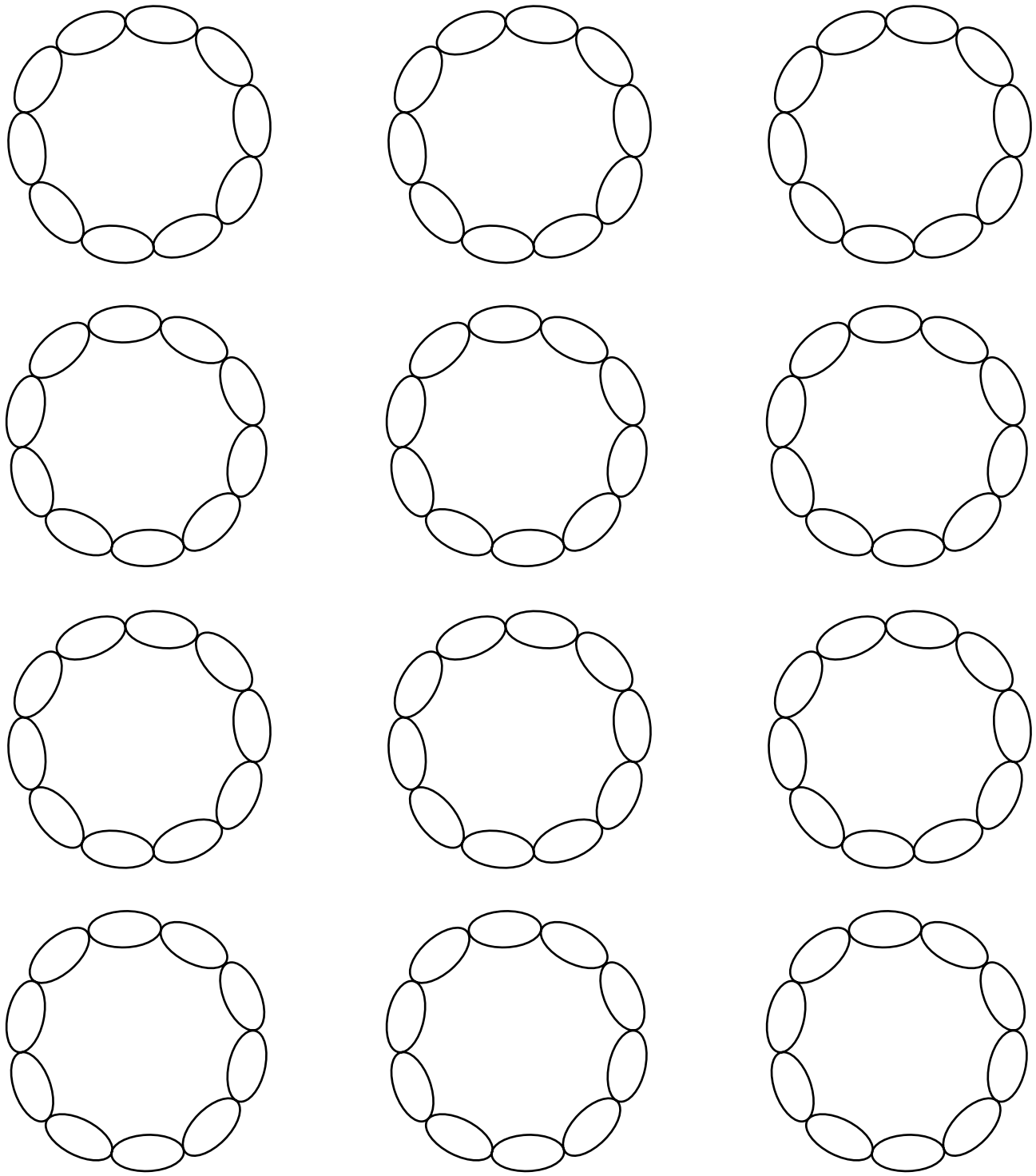




Name _____

L5

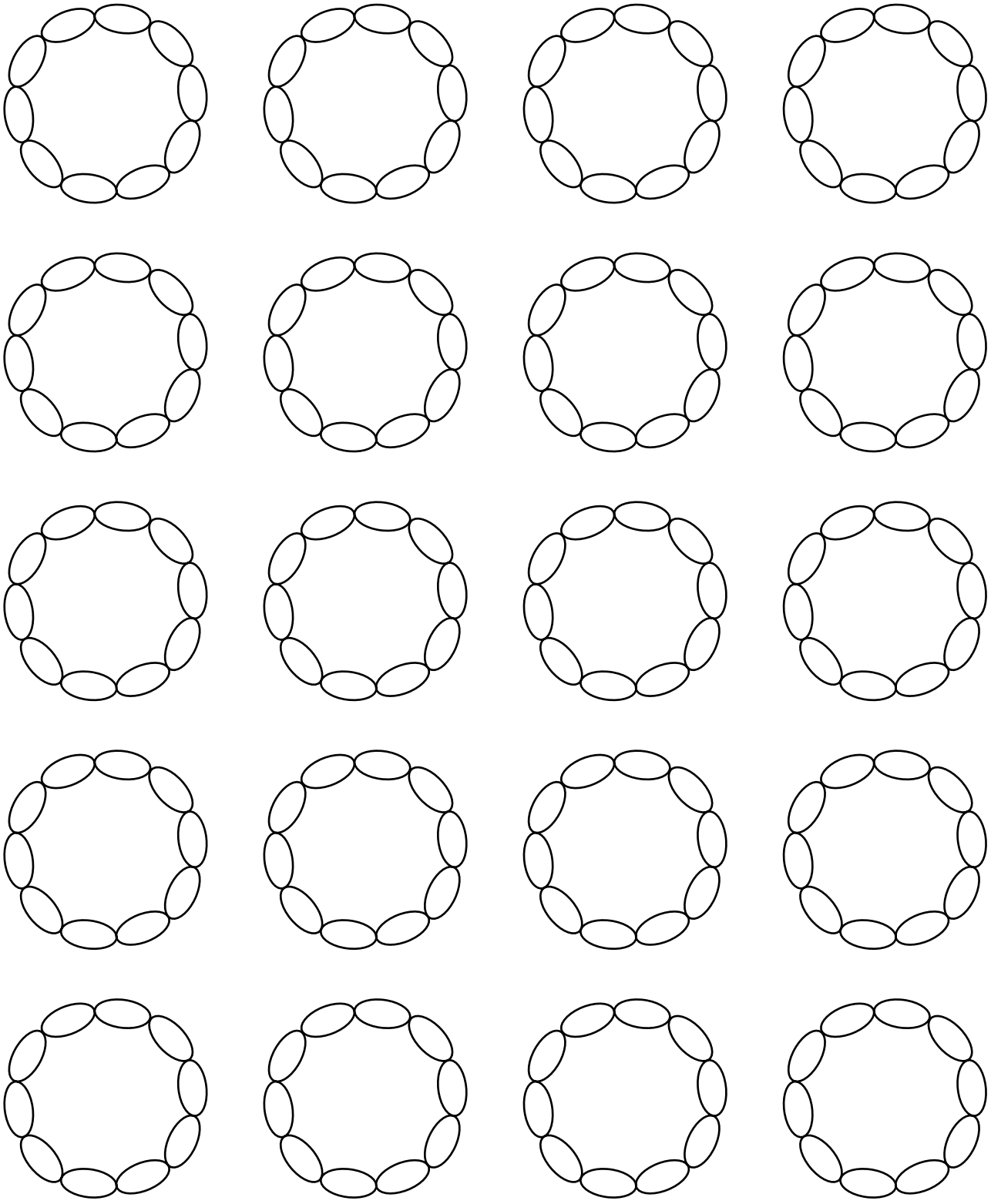
Show all of the different necklaces with seven white and three red beads. (You will not need to color all of the necklaces here.)



Name _____

L6(a)

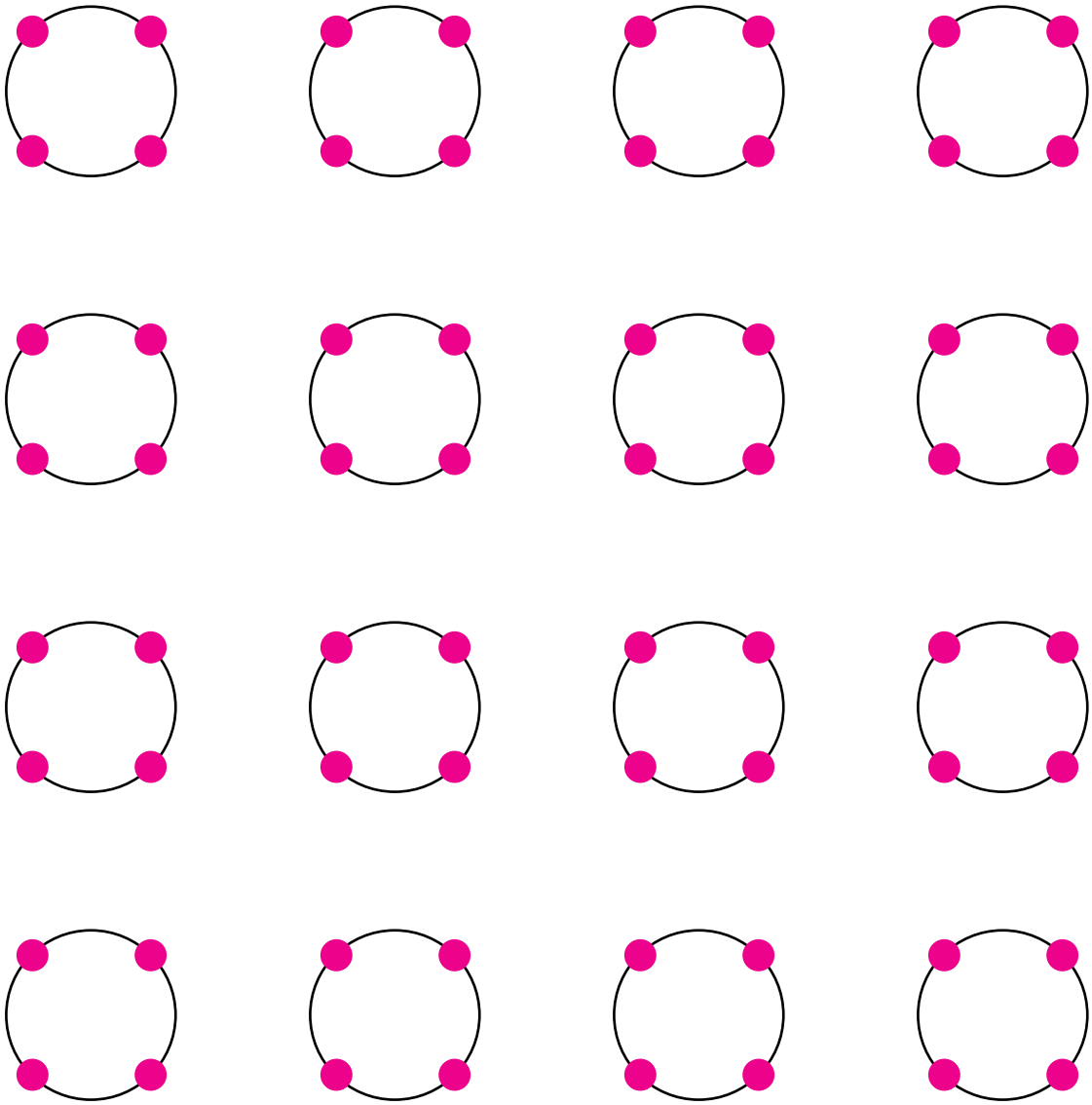
Show all of the different necklaces with six white and four red beads. (You will not need to color all the necklaces here.)



Name _____

L6(b)

Record the number of white beads between the four red beads in each arrangement of Theophilus's necklace.



Name _____

L10 $*$

With the given information, list which of these operations could be $*$:

T_D $\uparrow$ $\downarrow$ $\sqcap$ $+$ $-$ $\times$

Information	Possibilities for $*$
$6 * 3 = 3$	
$8 * 4 = 0$	
$2 * 2 = 0$	
$2 * 2 = 4$	
$6 * 6 = 6$ and $3 * 2 = 1$	
$9 * 6 \neq 3$	
$8 * 6 \neq 8$	
$1 * 1 \neq 1$	

Name _____

L10 **

Nim appears in at least three places in this table for one of these operations:

T_D $\uparrow$ $\downarrow$ $\sqcap$ $+$ $-$ $\times$

Which of these operations has these three entries the same? _____

*	3	4	5	6
3				
4				Nim
5			Nim	
6		Nim		

Who is Nim? _____

Nam appears in at least four places in this table for one of the seven operations listed above.

Which of these operations has these four entries the same? _____

*	1	2	3	4
1				
2	Nam		Nam	
3		Nam		
4		Nam		

Who is Nam? _____

Name _____

L11 *

Each table is for one of these operations:

T_D	T_M	$T_<$	$T_>$
⊓	⊔	↓	↑

$+_{10}$	$-_{10}$	X_{10}

Label the tables.

	5	7
3	8	0
4	9	1

	1	5
1	0	1
5	0	0

	2	5
3	1	1
7	1	1

Name _____

L11 **

Each table is for one of these operations:

T_D	T_M	$T_<$	$T_>$
⊓	⊔	↓	↑

$+_{10}$	$-_{10}$	X_{10}

Label the tables.

	1	3
6	1	1
7	1	0

	1	4
2	2	8
5	5	0

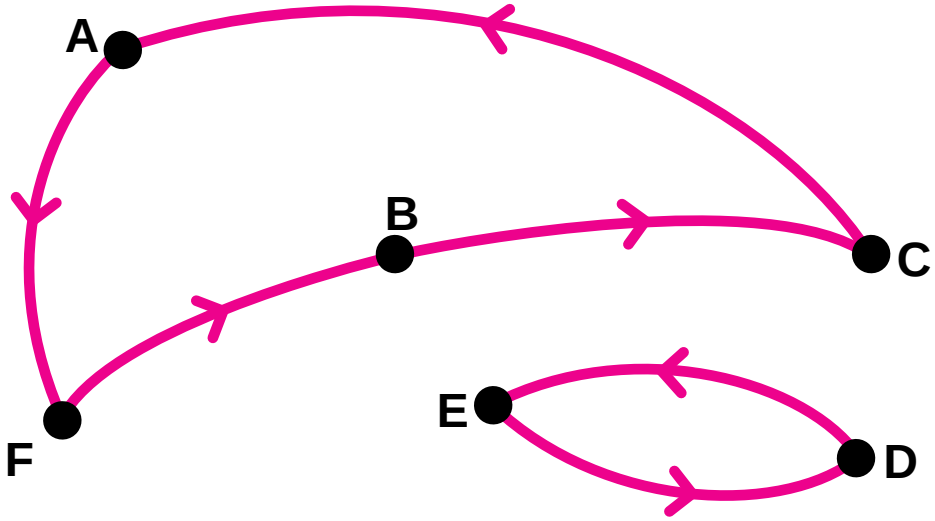
	1	4
2	2	~~8~~
5	5	~~5~~

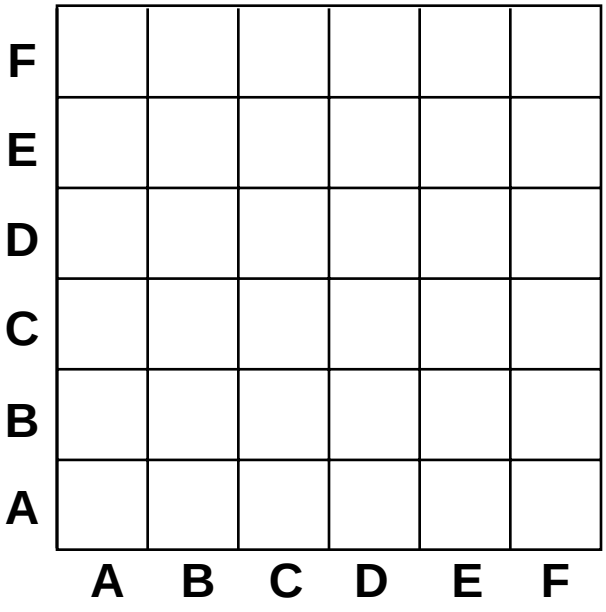
	2	3
3	1	0
4	~~1~~	1

Name _____

L12(a)

Complete the grid picture for this arrow picture.

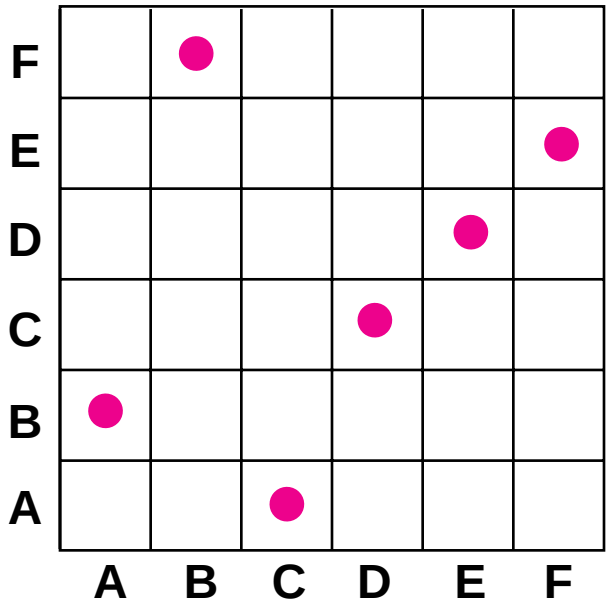


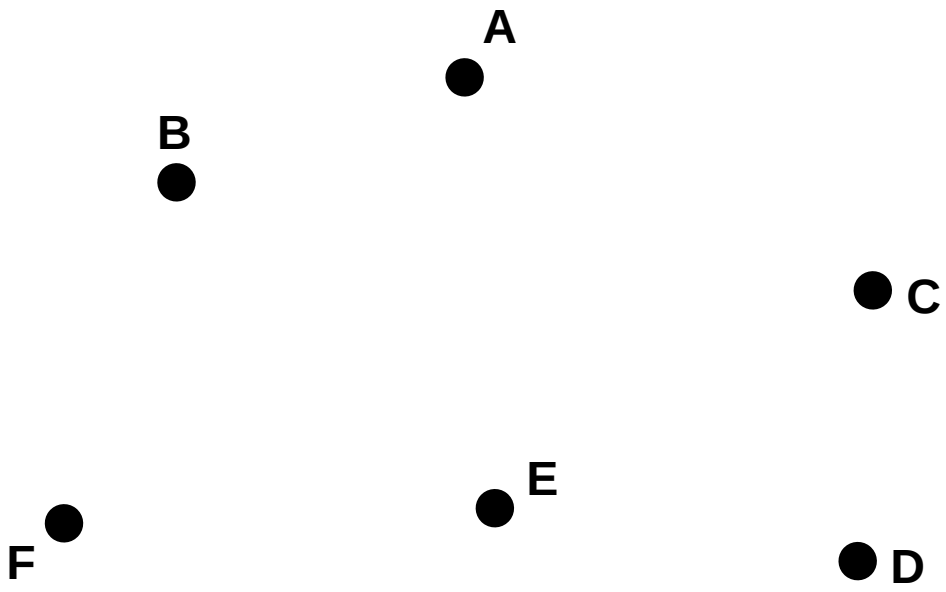


Name _____

L12(b)

Draw the arrow picture for this grid picture.



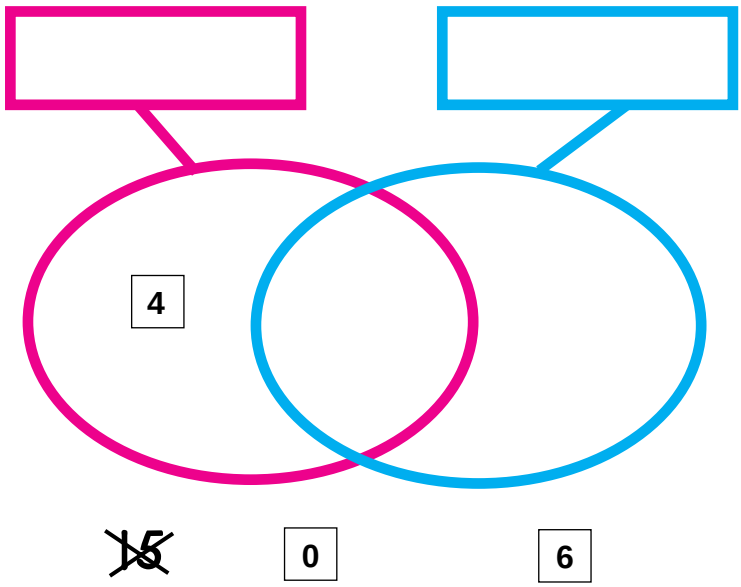


Name _____

L13 *

Use the clues in the picture to cross out labels the strings cannot have. Then label the strings.

RED	BLUE
MULTIPLES OF 2	MULTIPLES OF 2
MULTIPLES OF 3	MULTIPLES OF 3
MULTIPLES OF 4	MULTIPLES OF 4
MULTIPLES OF 5	MULTIPLES OF 5
MULTIPLES OF 10	MULTIPLES OF 10
ODD NUMBERS	ODD NUMBERS
POSITIVE PRIME NUMBERS	POSITIVE PRIME NUMBERS
GREATER THAN 50	GREATER THAN 50
LESS THAN 50	LESS THAN 50
GREATER THAN $\widehat{10}$	GREATER THAN $\widehat{10}$
LESS THAN $\widehat{10}$	LESSTHAN $\widehat{10}$
POSITIVE DIVISORS OF 12	POSITIVE DIVISORS OF 12
POSITIVE DIVISORS OF 18	POSITIVE DIVISORS OF 18
POSITIVE DIVISORS OF 20	POSITIVE DIVISORS OF 20
POSITIVE DIVISORS OF 24	POSITIVE DIVISORS OF 24
POSITIVE DIVISORS OF 27	POSITIVE DIVISORS OF 27

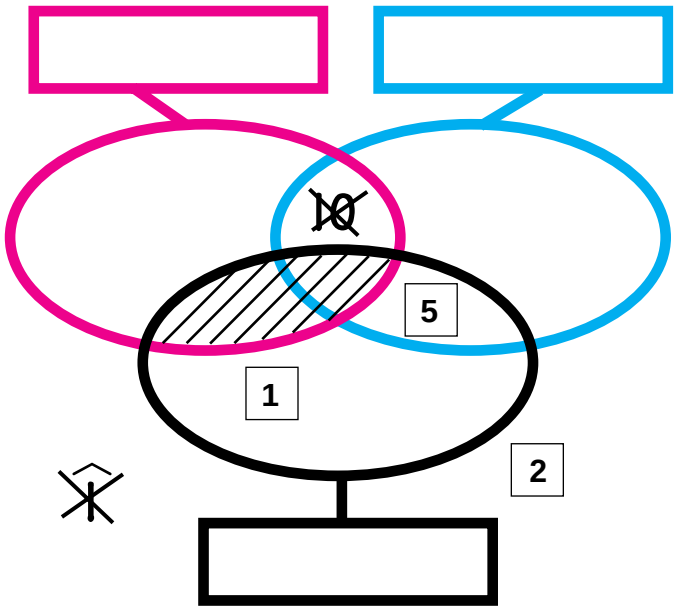


Name _____

L13 **

Use the clues to cross out labels the strings cannot have. Then label the strings.

RED	BLUE	BLACK
MULTIPLES OF 2	MULTIPLES OF 2	MULTIPLES OF 2
MULTIPLES OF 3	MULTIPLES OF 3	MULTIPLES OF 3
MULTIPLES OF 4	MULTIPLES OF 4	MULTIPLES OF 4
MULTIPLES OF 5	MULTIPLES OF 5	MULTIPLES OF 5
MULTIPLES OF 10	MULTIPLES OF 10	MULTIPLES OF 10
ODD NUMBERS	ODD NUMBERS	ODD NUMBERS
POSITIVE PRIME NUMBERS	POSITIVE PRIME NUMBERS	POSITIVE PRIME NUMBERS
GREATER THAN 50	GREATER THAN 50	GREATER THAN 50
LESS THAN 50	LESS THAN 50	LESS THAN 50
GREATER THAN $\widehat{10}$	GREATER THAN $\widehat{10}$	GREATER THAN $\widehat{10}$
LESS THAN $\widehat{10}$	LESSTHAN $\widehat{10}$	LESS THAN $\widehat{10}$
POSITIVE DIVISORS OF 12	POSITIVE DIVISORS OF 12	POSITIVE DIVISORS OF 12
POSITIVE DIVISORS OF 18	POSITIVE DIVISORS OF 18	POSITIVE DIVISORS OF 18
POSITIVE DIVISORS OF 20	POSITIVE DIVISORS OF 20	POSITIVE DIVISORS OF 20
POSITIVE DIVISORS OF 24	POSITIVE DIVISORS OF 24	POSITIVE DIVISORS OF 24
POSITIVE DIVISORS OF 27	POSITIVE DIVISORS OF 27	POSITIVE DIVISORS OF 27



Name _____

L15 *

The table below is for one of these operations:

The Table Game

$+_{10}$	$-_{10}$	x_{10}
⊓	⊔	↑
T_D	T_M	↓
$T_<$	$T_>$	T_P

Label the table.

	1	2	3	4	5	6	7	8	9
1									
2						2			
3								4	
4									
5		0							
6									
7									
8									
9									

Name _____

L15 **

$*$ is one of the operations in The Table Game.

The Table Game

$+_{10}$	$-_{10}$	x_{10}
⊓	⊔	↑
T_D	T_M	↓
$T_<$	$T_>$	T_P

Clue 1

This table for $*$ has exactly three 0s in it.

$*$	4	8
8		
4		

$*$ could be _____.

Clue 2

This table for $*$ has exactly three 1s in it.

$*$	6	9
5		
7		

$*$ is _____.

Name _____

L15 ***

$*$ is one of the operations in The Table Game.

The Table Game

$+_{10}$	$-_{10}$	x_{10}
⊓	⊔	↑
T_D	T_M	↓
$T_<$	$T_>$	T_P

Clue 1

No two entries in this table for $*$ are the same.

$*$	3	4
2		
3		

$*$ could be _____.

Clue 2

All four entries in this table for $*$ are the same.

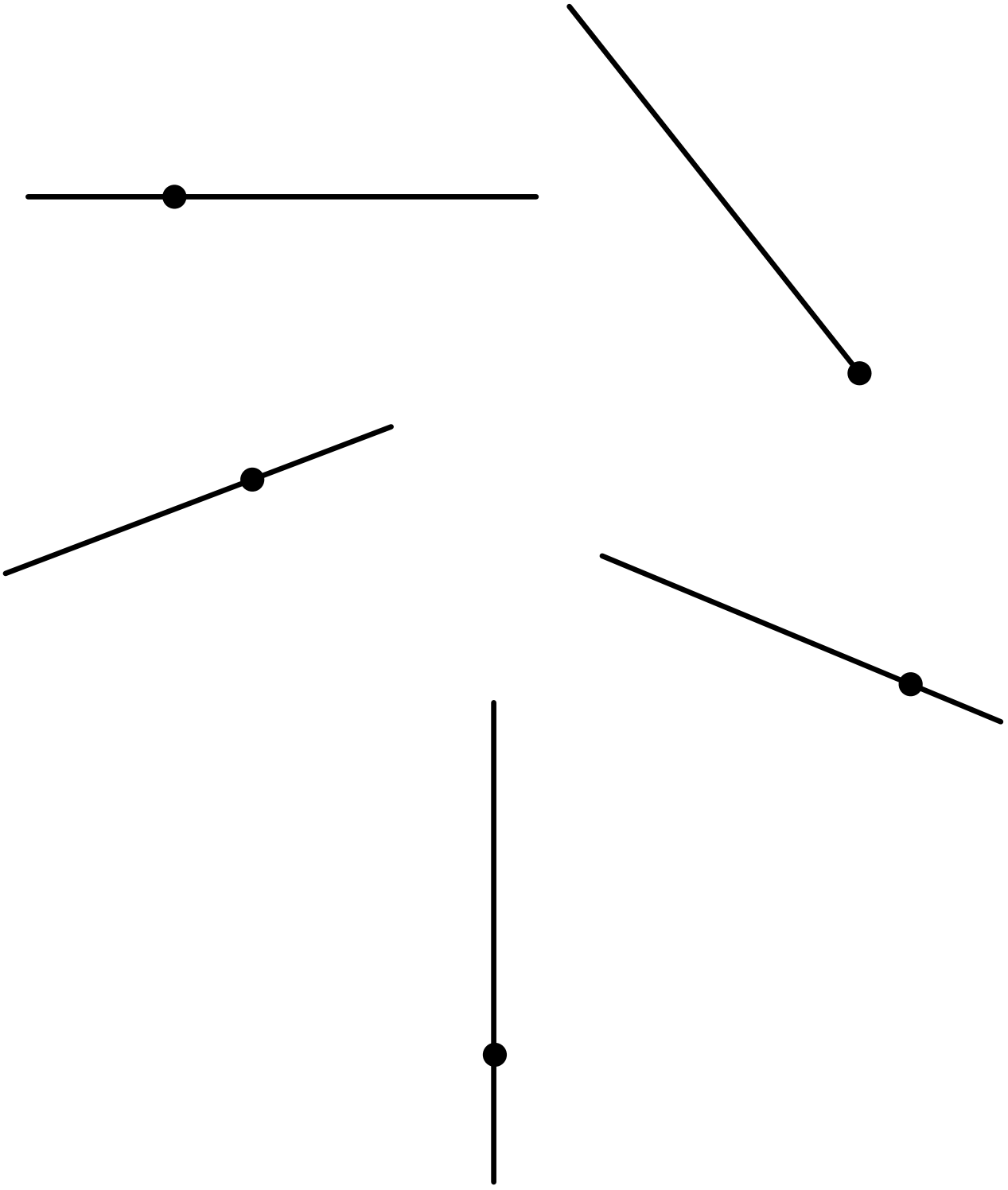
$*$	2	6
3		
6		

$*$ is _____.

Name _____

G3(a)

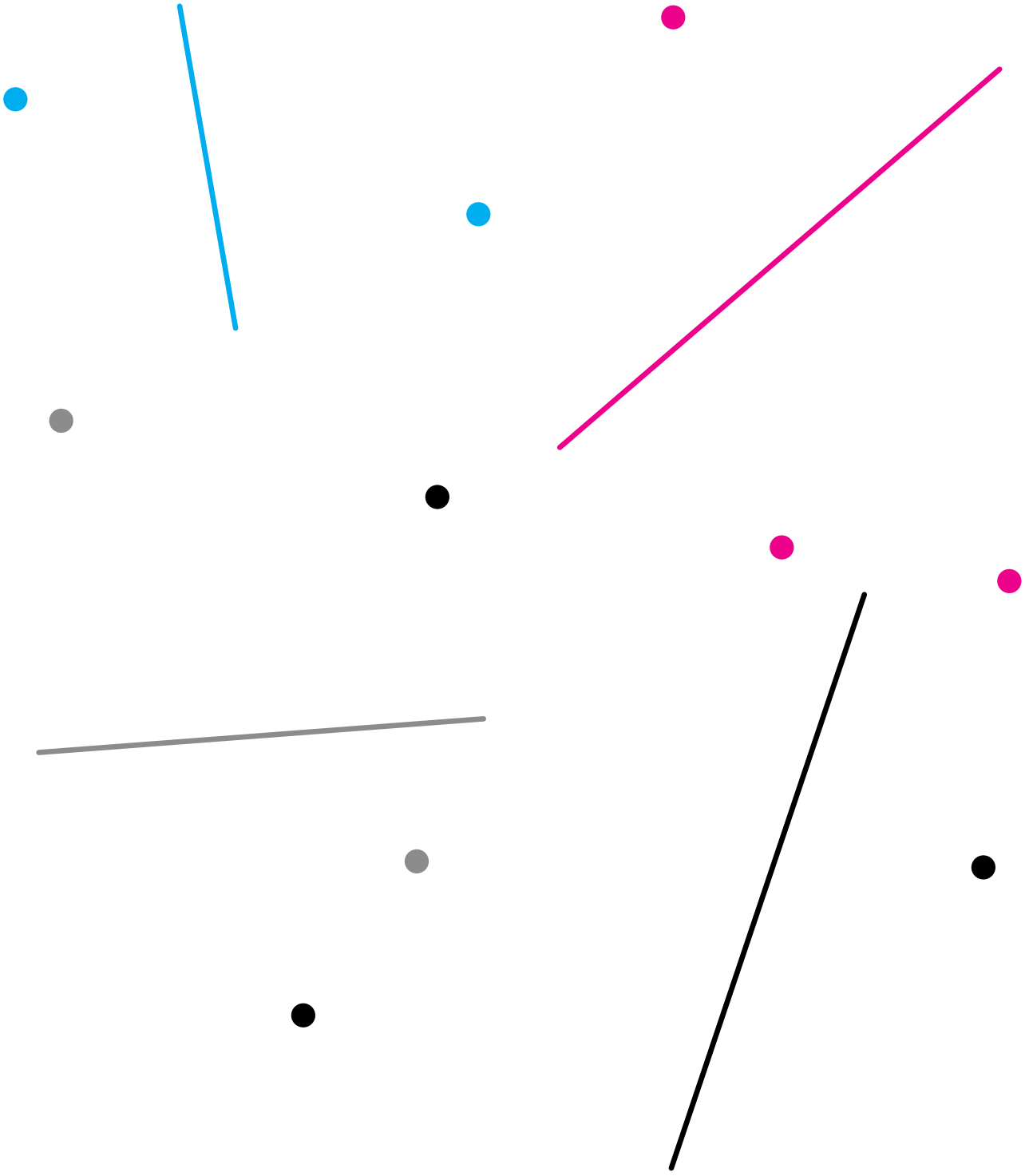
Draw a perpendicular to each line segment at the indicated point.
Remember, perpendicular line segments meet in a square corner.



Name _____

G3(b)

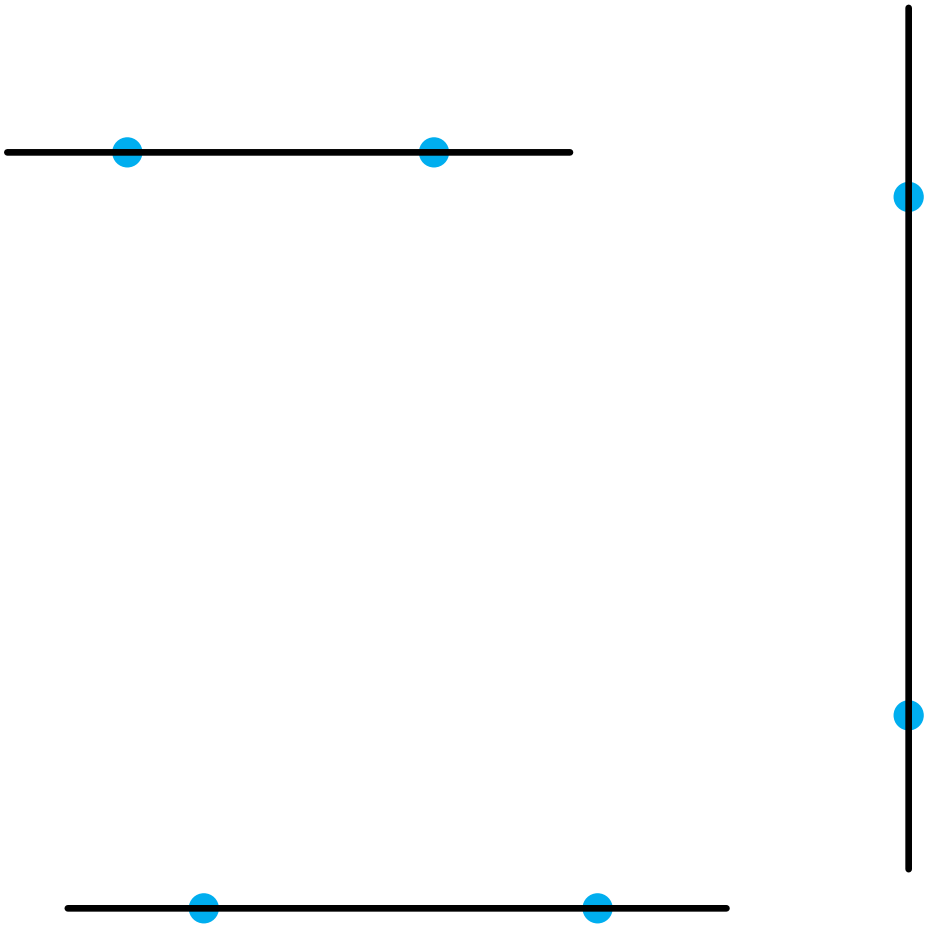
Draw a perpendicular through each dot to the line segment of the same color. Remember, perpendicular line segments meet in a square corner.



Name _____

G4(a)

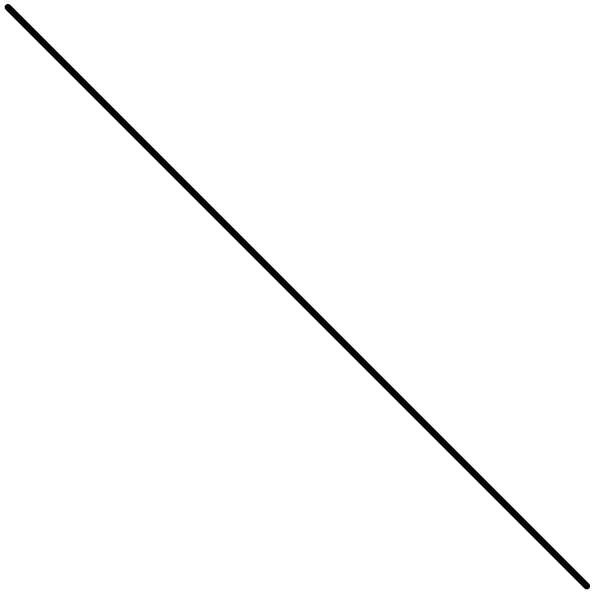
For each line segment, construct a pair of intersecting circles with the same radius and with centers at the blue dots. Color the intersection points in red and connect them with a red line segment.



Name _____

G4(b)

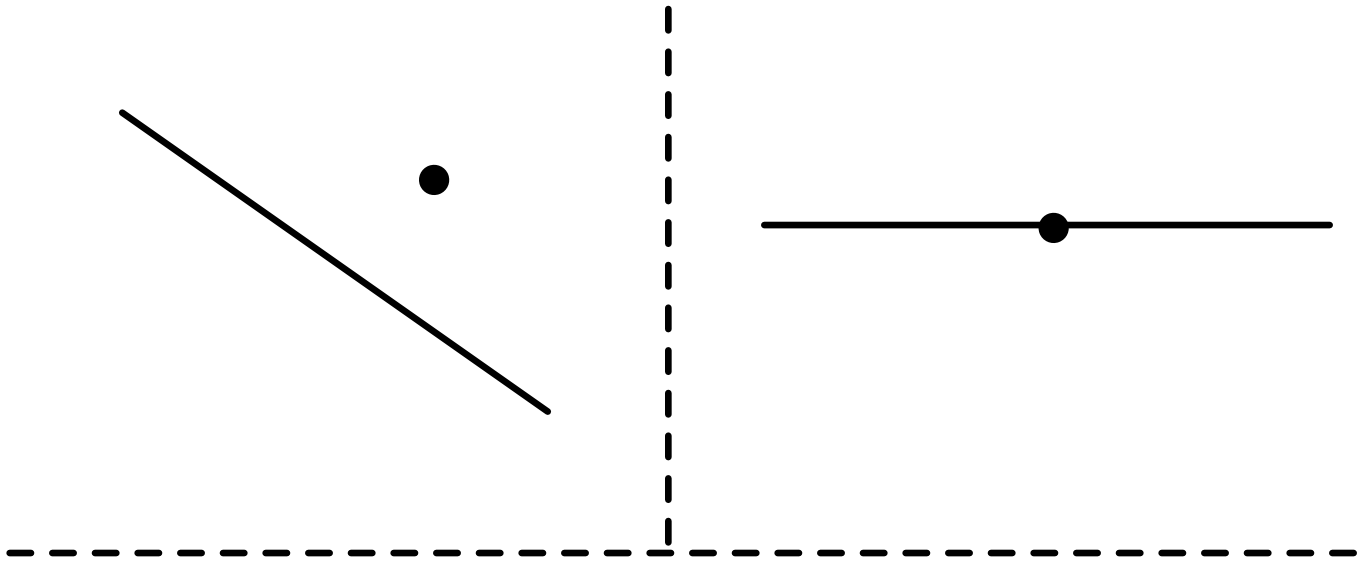
Use a compass and a straightedge to find the midpoint of each line segment.

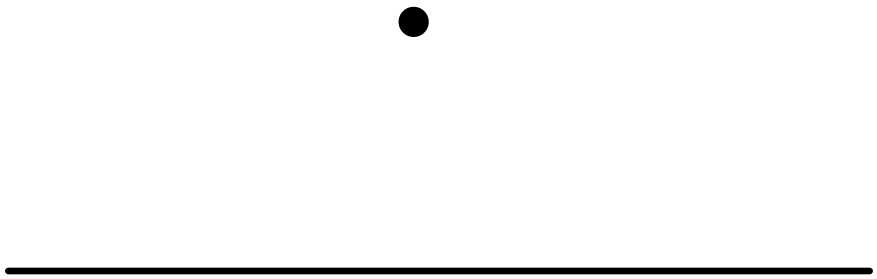


Name _____

G4(c)

Draw a perpendicular to each line segment through the closest dot. Use your compass and straightedge. Do not use a square corner.

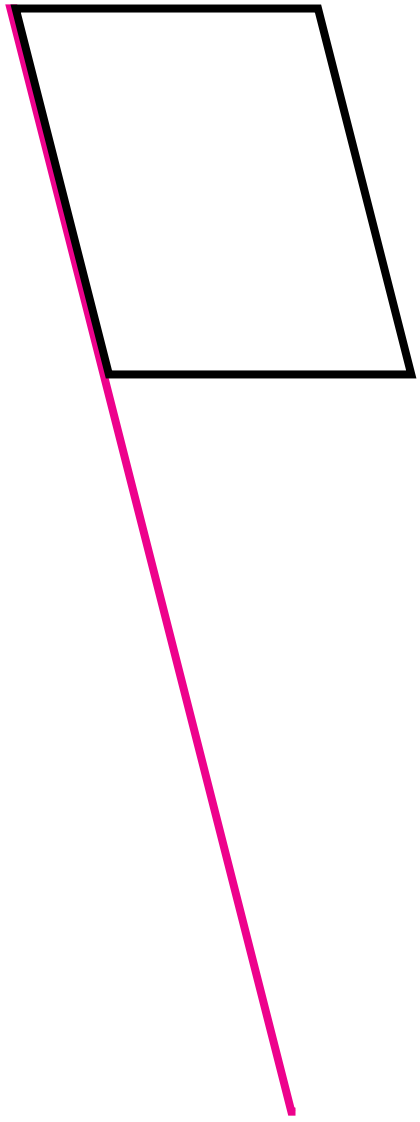




Name _____

G5(a)

Draw a red parallelogram with sides parallel to and three times as long as the sides of this small parallelogram. One side is drawn for you.



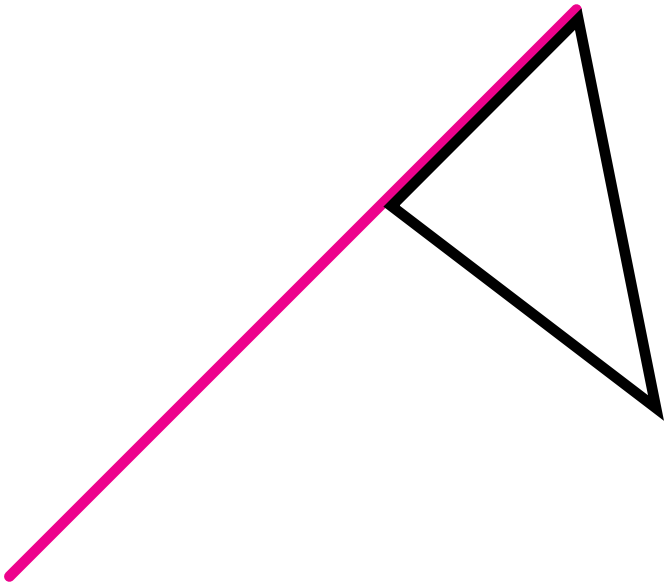
How many small parallelograms fit into the large red parallelogram? _____

Show this on your drawing.

Name _____

G5(b)

Draw a red triangle with sides parallel to and three times as long as the sides of this small triangle. One side is drawn for you.

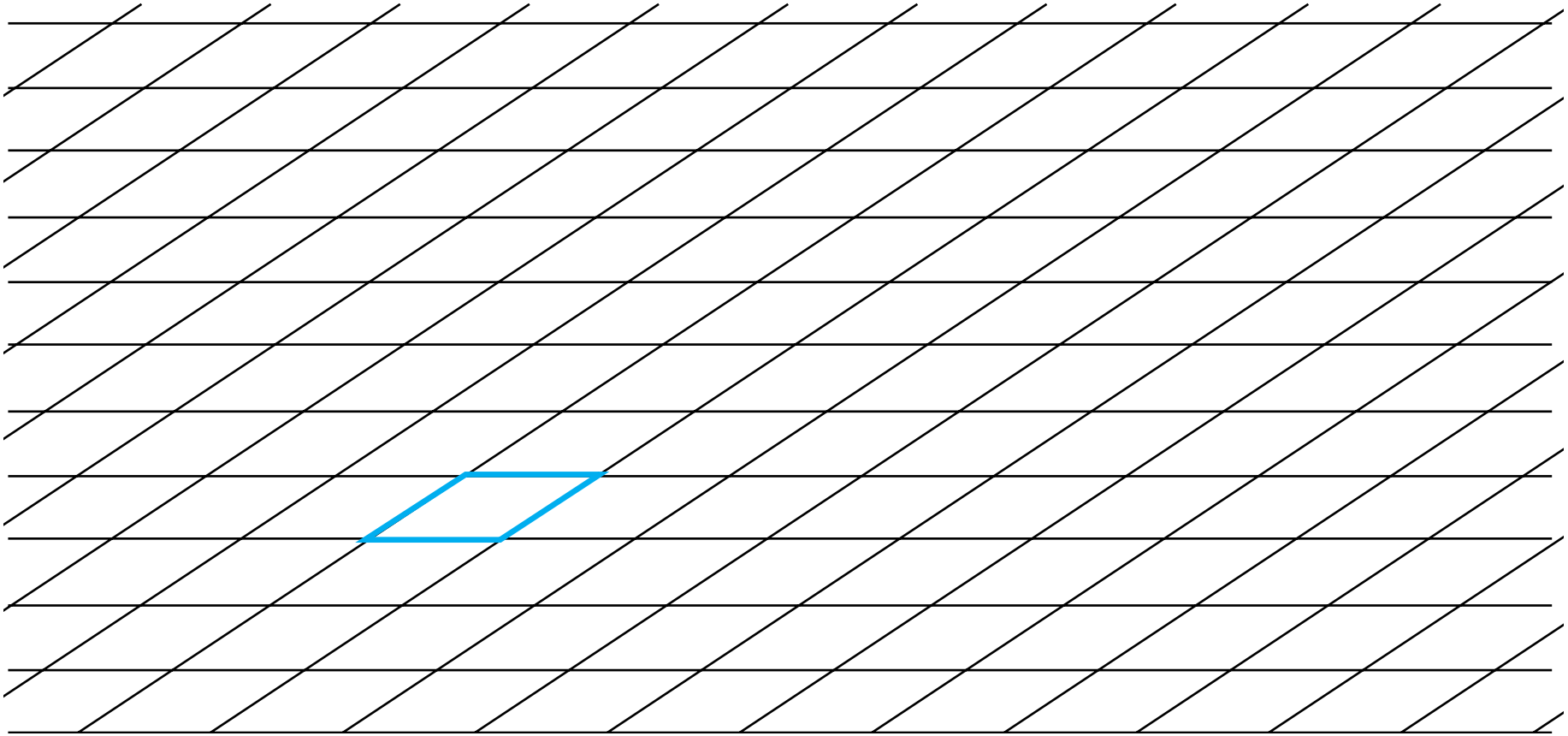


How many small triangles fit into the large red triangle? _____

Show this on your drawing.

Name _____

G9



Build a red parallelogram with sides twice as long as the blue parallelogram.
Build a green parallelogram with sides three times as long as the blue parallelogram.
Build a yellow parallelogram with sides four times as long as the blue parallelogram.
If the area of the blue parallelogram is 2 cm^2, what are the areas of the other parallelograms?

Area of the blue parallelogram: 2 cm^2
Area of the red parallelogram: __ cm^2
Area of the green parallelogram: __ cm^2
Area of the yellow parallelogram: __ cm^2

Name _____

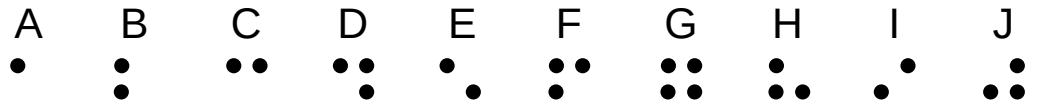
G12

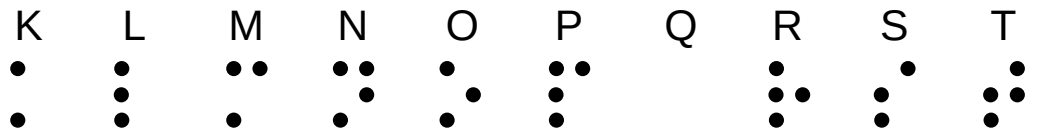
Use a compass and straightedge to construct four-sided shapes. Each side of a shape must have the same length as one of these segments.

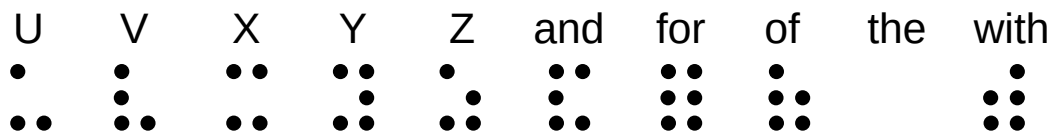
Draw as many different four-sided shapes as you can.

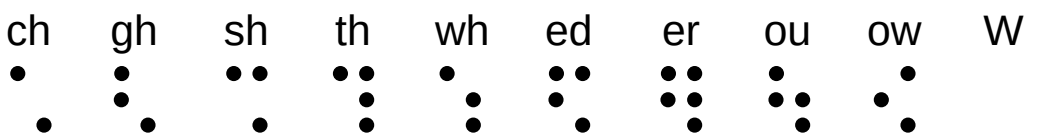
Name _____

P1(a)


A B C D E F G H I J

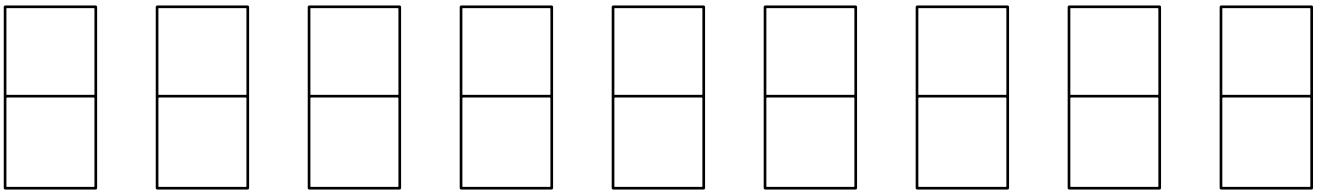

K L M N O P Q R S T

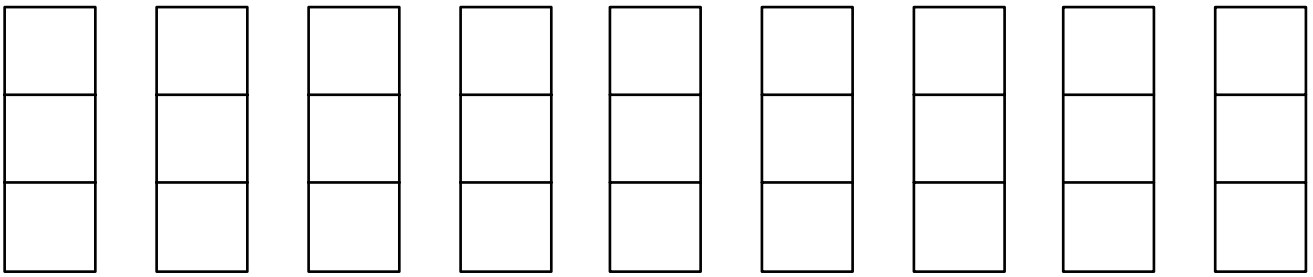

U V X Y Z and for of the with

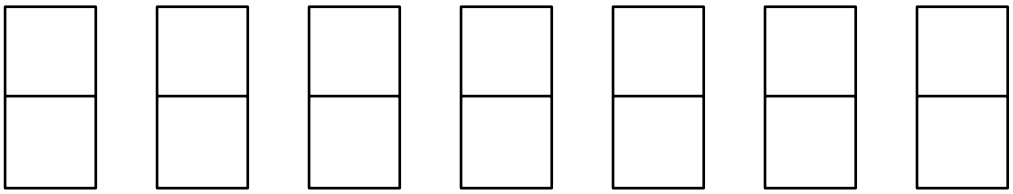

ch gh sh th wh ed er ou ow W

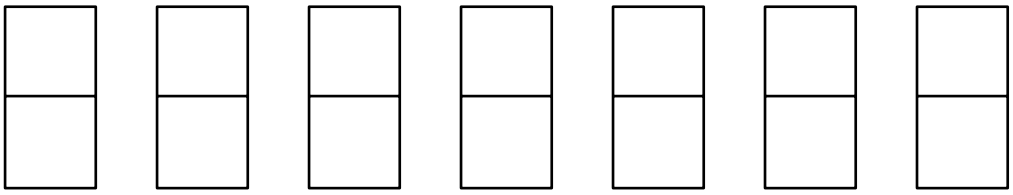
Name _____

P1(b)



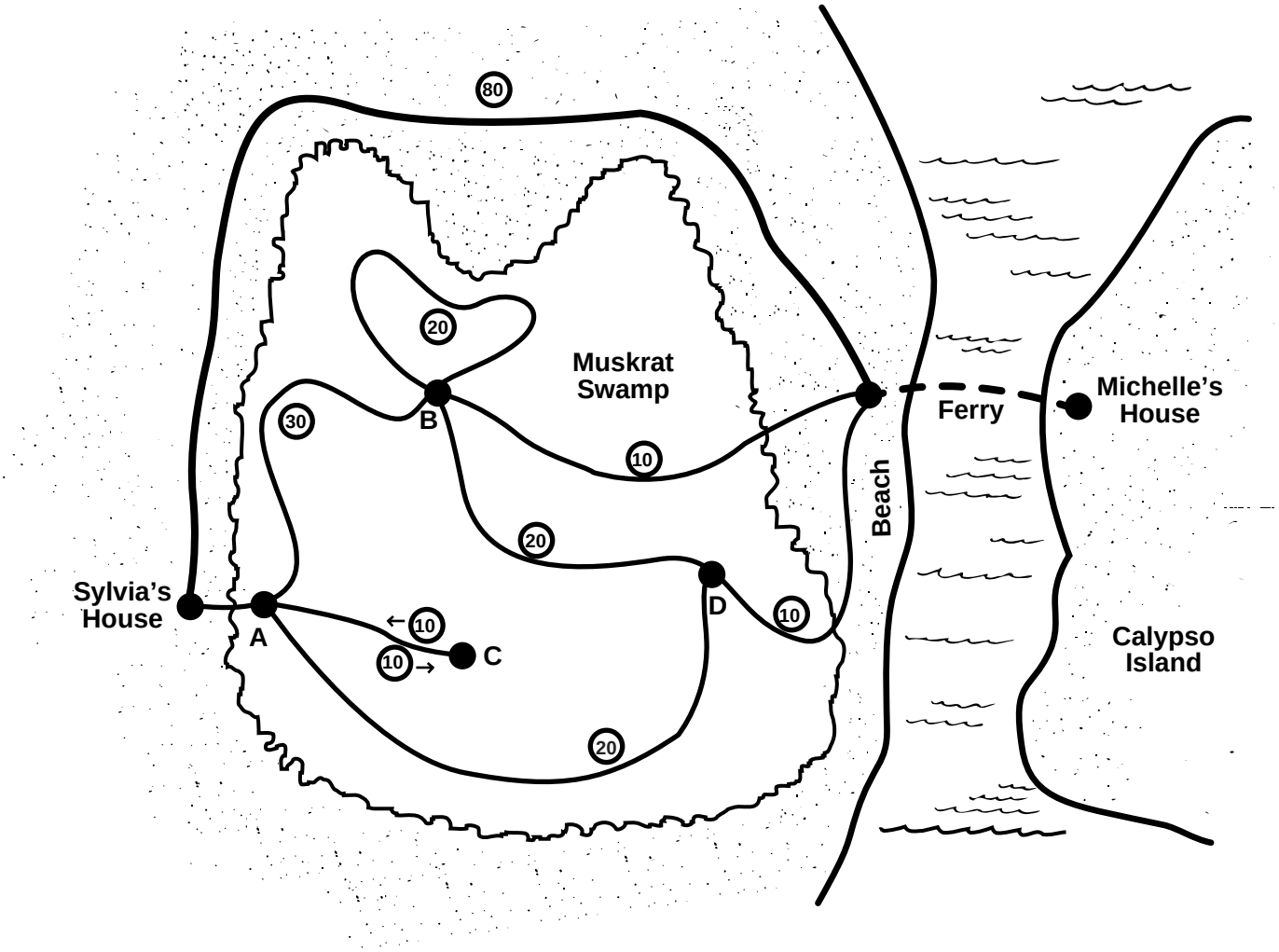






Name _____

P2 *



Sylvia must get to the ferry in 40 minutes.

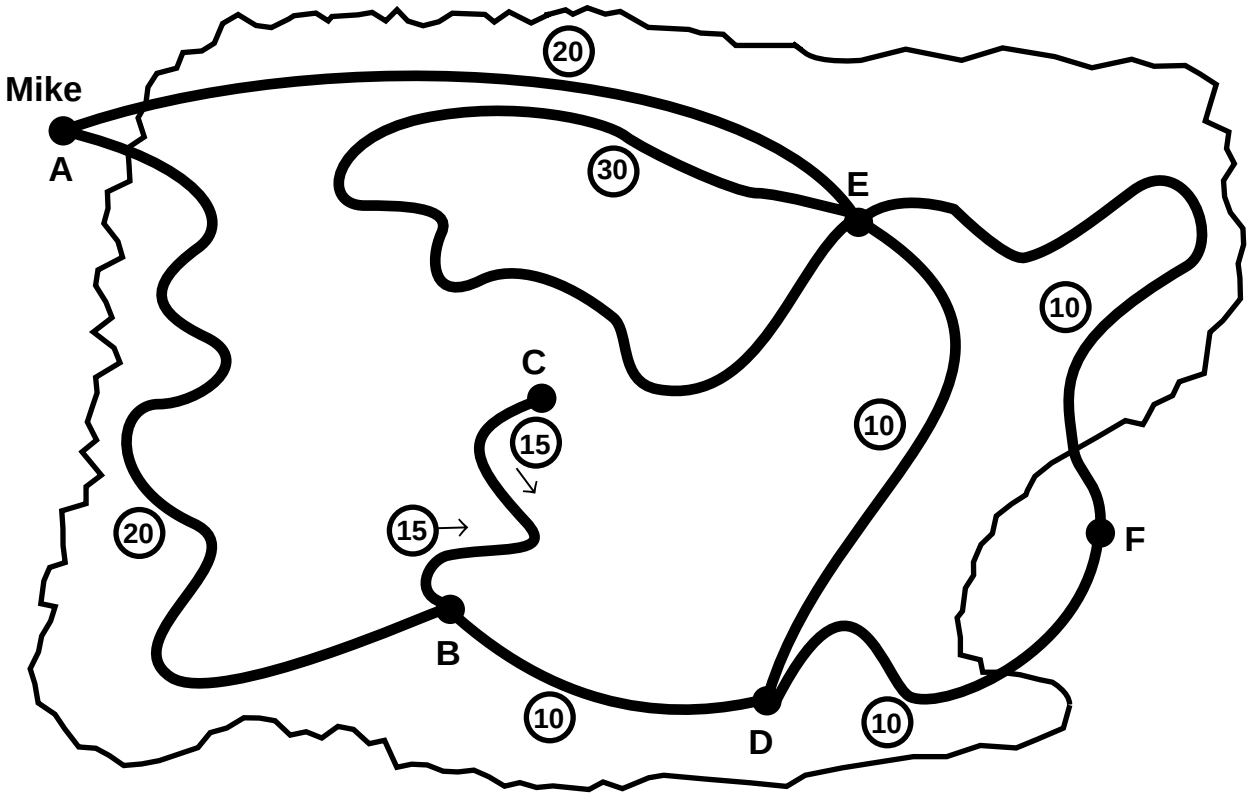
Use a square to calculate her probability of arriving on time.

What is Sylvia's probability of getting to the ferry on time? _____

● On time ● Late

Name _____

P2 **



Mike is at **A**. He must travel to **F** in 60 minutes or less. Calculate his probability of success if he randomly chooses which paths to follow, but does not take the same path twice.

What is Mike's probability of getting to **F** in 60 minutes or less?

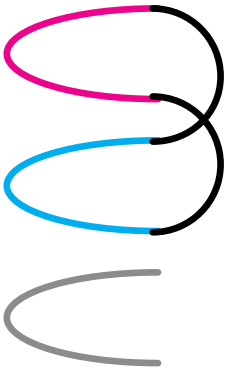
_____

● On time ● Late

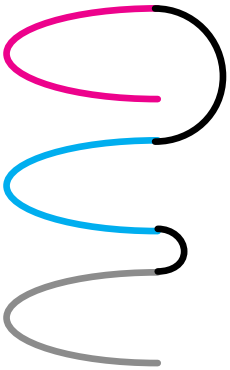
Name _____

P3(a)

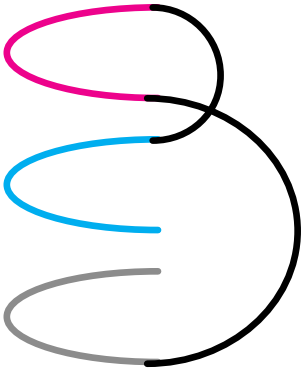
For each picture, do the two knots form one long piece of rope? Circle your answer.



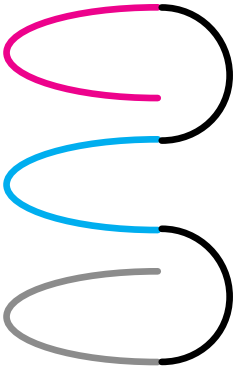
Yes No



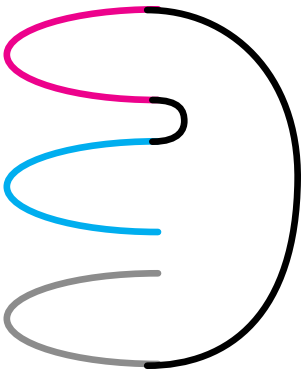
Yes No



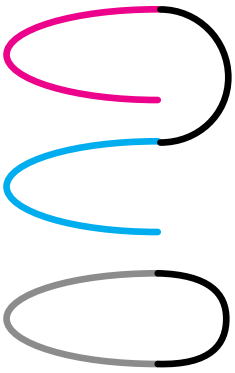
Yes No



Yes No



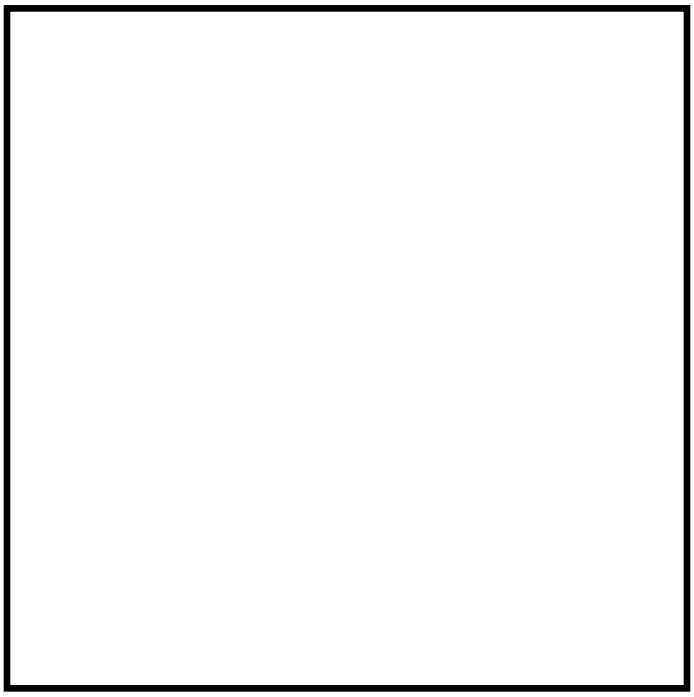
Yes No



Yes No

Name _____

P3(b)



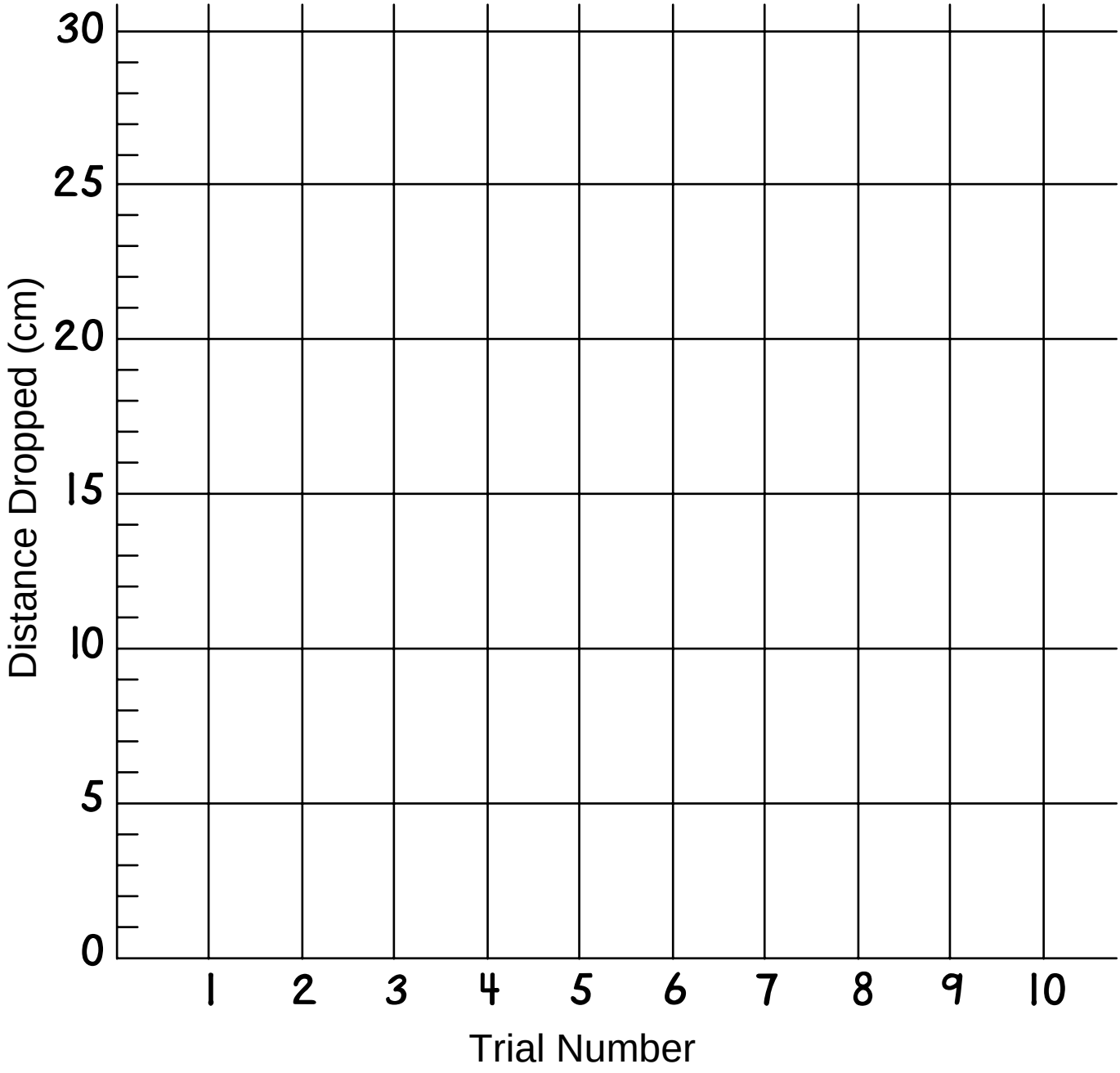
Failure

Success

Name _____

P4(a)

Trial Number	1	2	3	4	5	6	7	8	9	10
Distance Dropped (cm)										



Name _____

P4(b)

Distance Dropped (cm)

Arnold	14	18	19	9	24	14	28	19	5	19
Lucy	18	15	17	16	16	7	13	19	17	18
Pierre	17	15	15	19	15	14	15	15	21	17
Michelle	16	12	16	28	16	28	11	13	12	13

Each of these students believes that he or she has the fastest reaction time. Try to find and explain each person's reason.

Arnold _____

_____

Lucy _____

_____

Michelle_____

_____

Pierre _____

_____

Who do you think has the fastest reaction time? _____

Why?_____

Name _____ P4(c)

Use the data you recorded on Worksheet P4(a) to find your best result, mean, mode, and median.

Your best single result is the shortest drop in the ten trials.

Best single result: _____

Calculate your mean: add the ten results and divide the sum by 10.

Mean: _____

Your mode is the measurement that occurred most often. You may have more than one mode.

Mode(s): _____

Calculate your median: first order your ten results from shortest to longest.

_____, _____, _____, _____, _____, _____, _____, _____, _____, _____

Then add the two middle numbers and divide the sum by 2.

Median: _____

Name _____

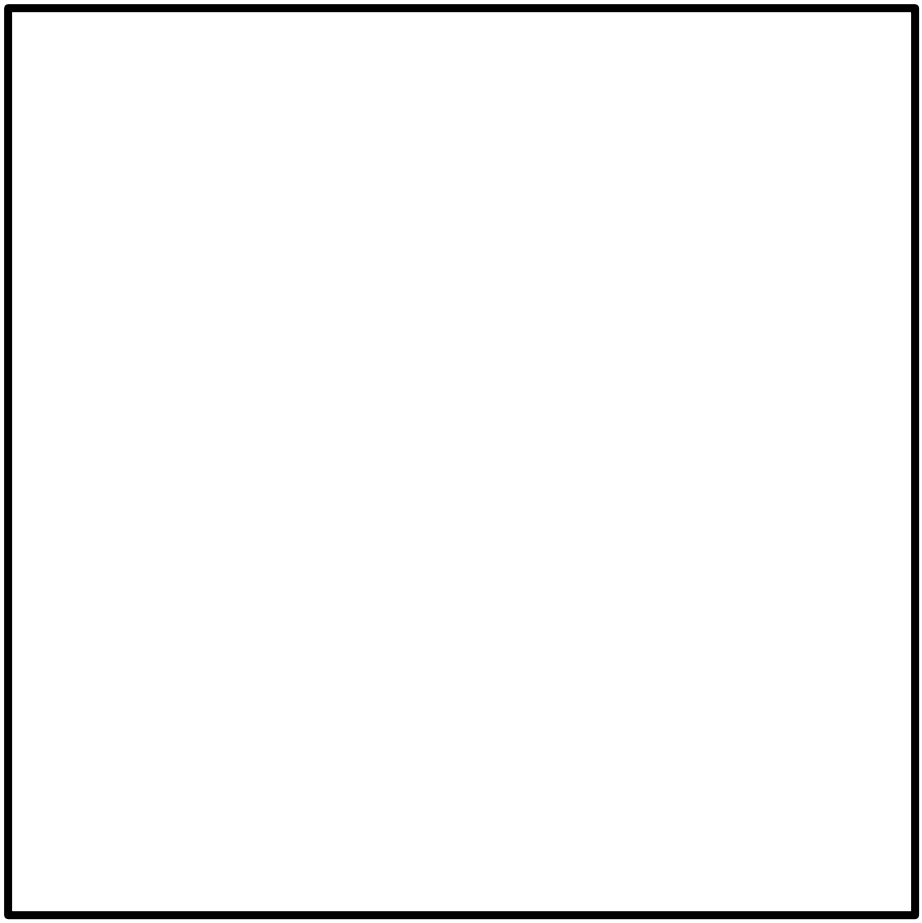
P5(a)

Problem #1

Group: _____

Teacher selects the _____ cube.

Student selects the _____ cube.



Answer: p (_____, _____) = _____

Name _____

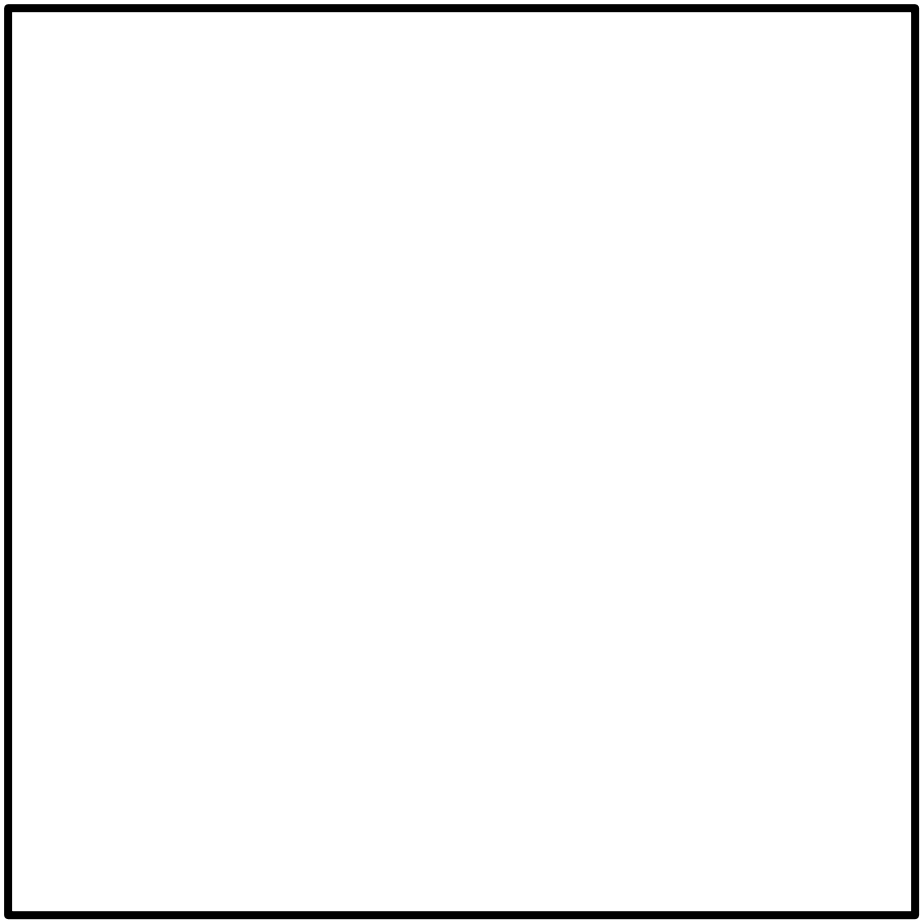
P5 (b)

Problem #2

Group: _____

Teacher selects the _____ cube.

Student selects the _____ cube.

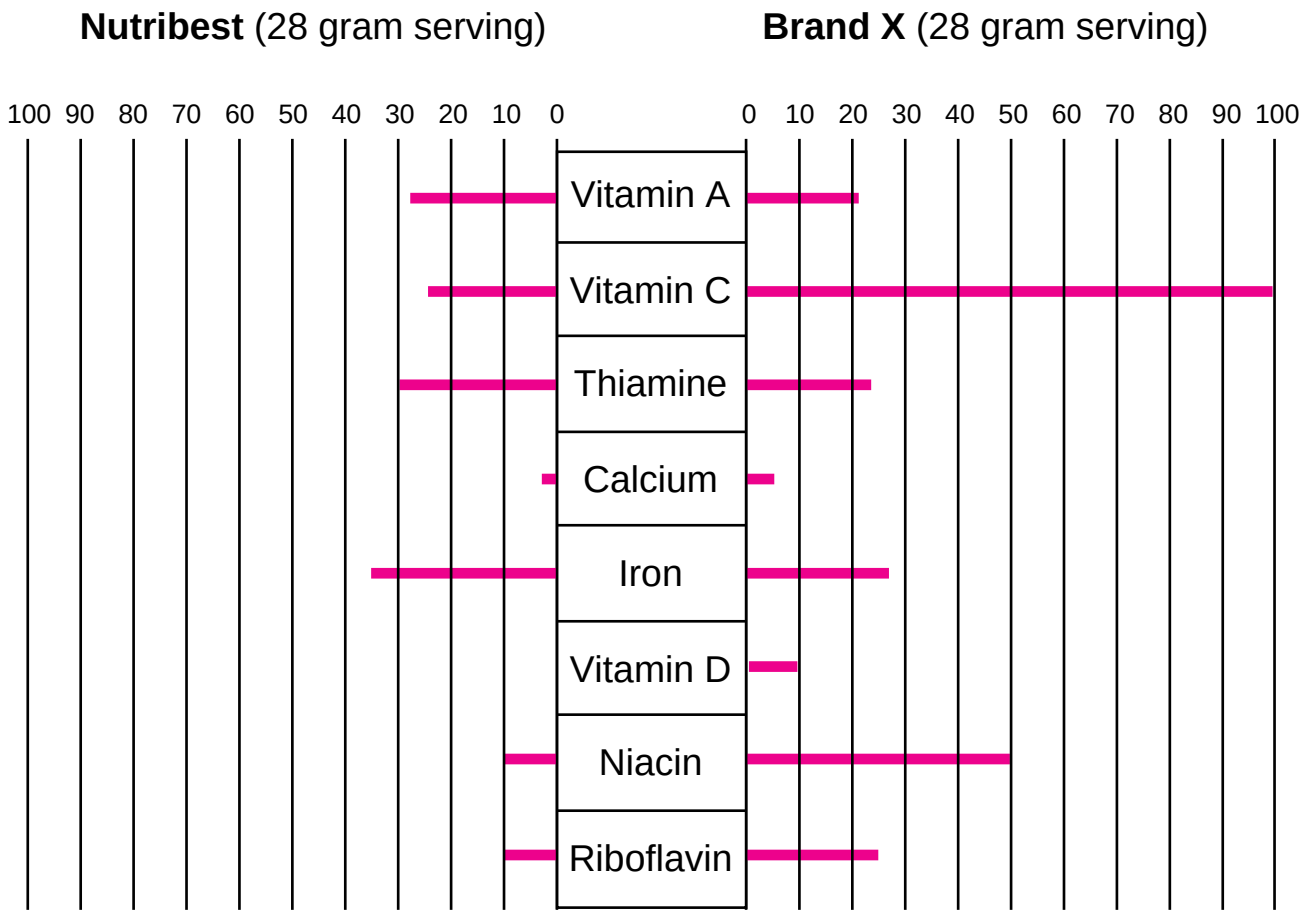


Answer: p (_____, _____) = _____

Name _____

P8(a)

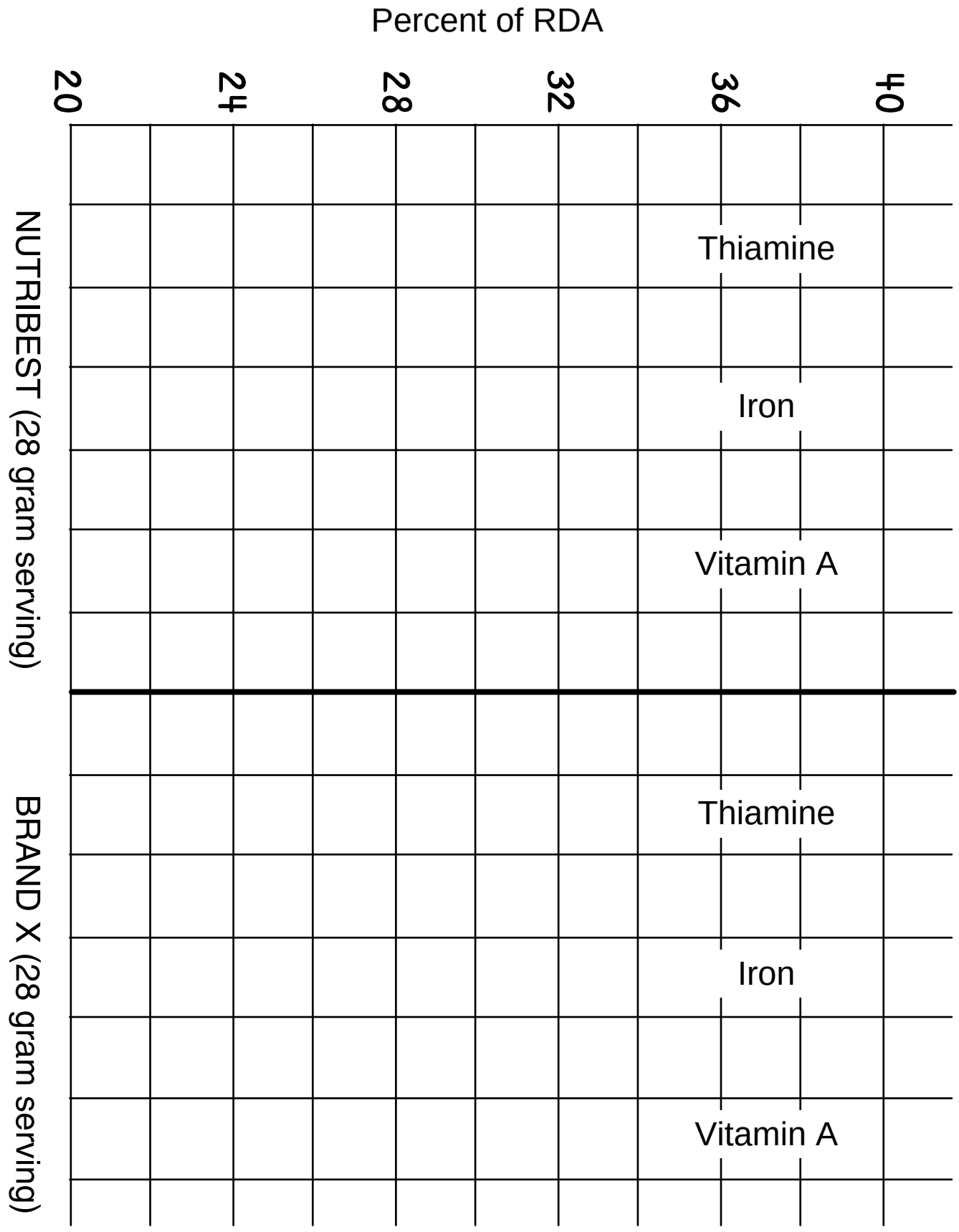
Percent of Recommended Daily Allowance (RDA)
(U.S. Department of Agriculture)



Nutribest		**Brand X**
5 grams	Protein	2 grams
0.24 grams	Sodium	0.15 grams

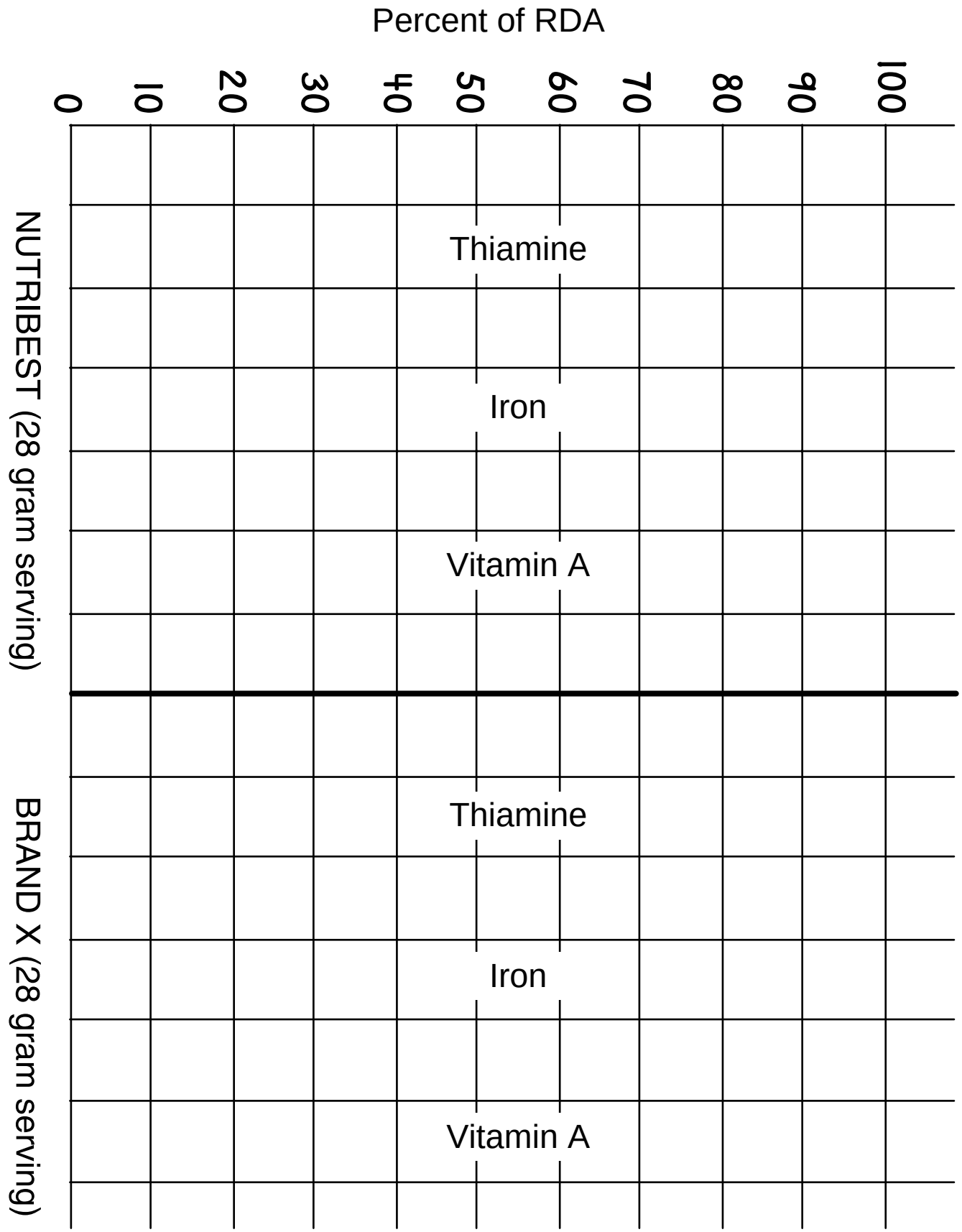
Name _____

P8(b)


Percent of RDA
20
24
28
32
36
40
NUTRIBEST (28 gram serving)
Thiamine
Iron
Vitamin A
BRAND X (28 gram serving)
Thiamine
Iron
Vitamin A

Name _____

P8(c)


Percent of RDA
0
10
20
30
40
50
60
70
80
90
100
NUTRIBEST (28 gram serving)
Thiamine
Iron
Vitamin A
BRAND X (28 gram serving)
Thiamine
Iron
Vitamin A

Name _____

P8(d)

These signs all advertise the same CDs.

Which has a better price: Omega Recordings or Dave's Disks? Explain why. _____

_____

_____

List the stores from lowest to highest according to the sale price per CD.

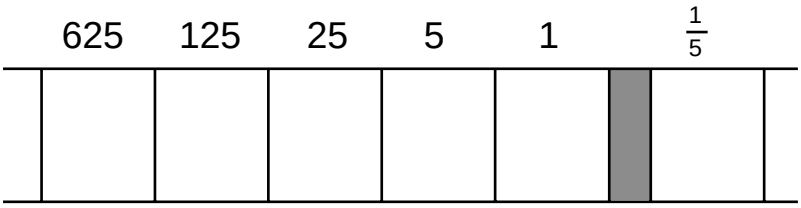
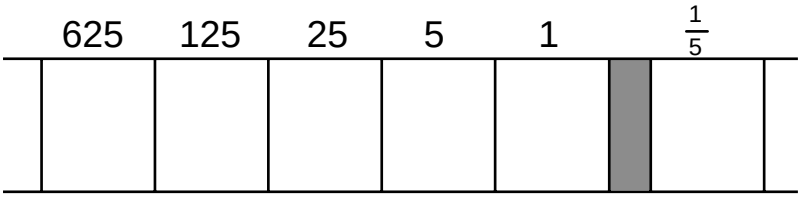
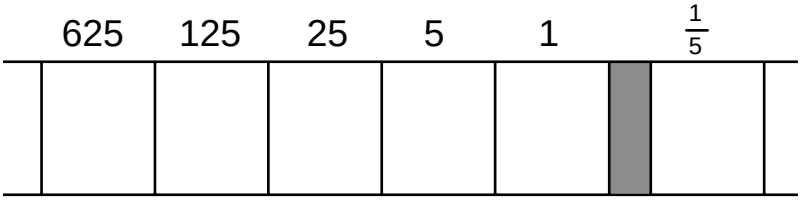
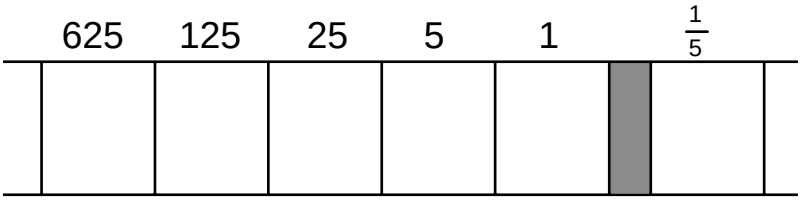
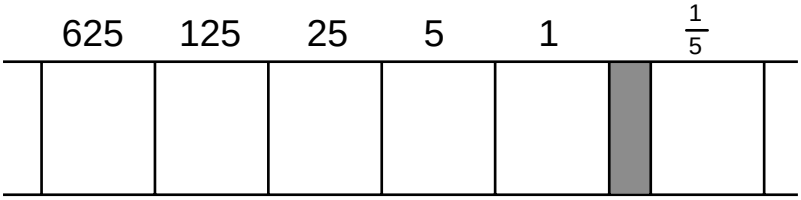
_____, _____, _____, _____

Lowest price

Highest price

Name _____

W7

Decimal Writing		Base Five Writing
63		
210		
		1234
800		
		2023