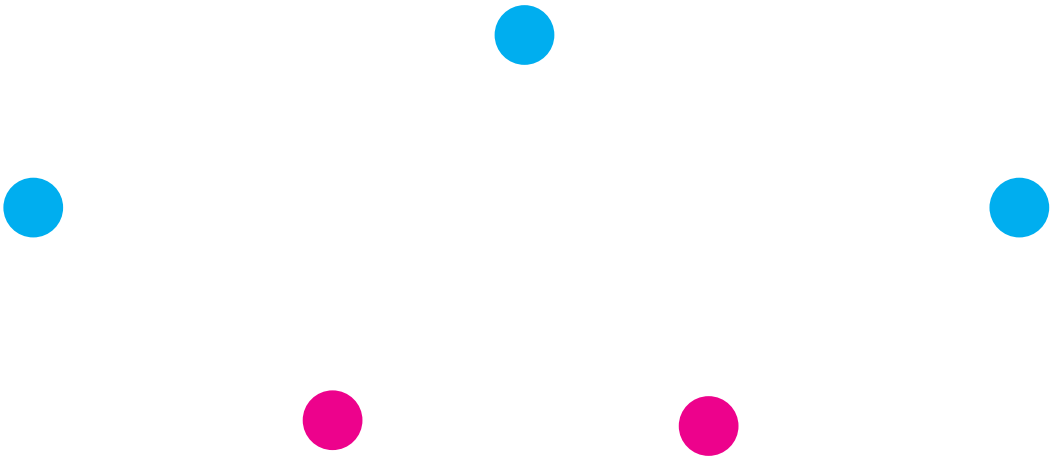
Name _____ P4 *

Suppose you have two red marbles and three blue marbles. Draw cords to show all of the different ways that you could select two marbles. Label a cord between marbles of the same color **S**; label a cord between marbles of different colors **D**.

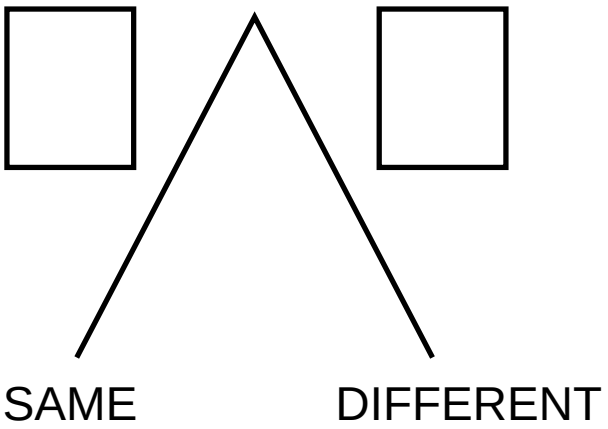


How many cords did you draw? _____

How many cords are for SAME? _____

How many cords are for DIFFERENT? _____

Write the probabilities in the boxes.



Which is more likely, SAME or DIFFERENT? _____

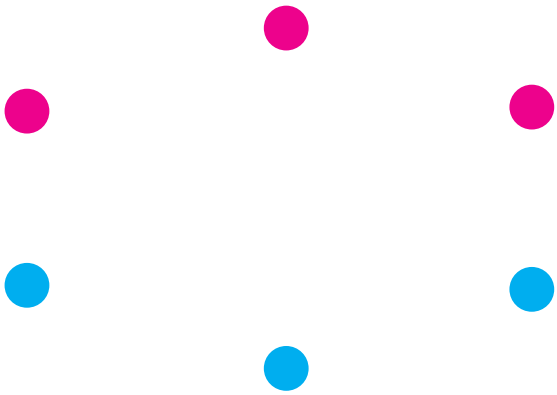
Name _____

P4 **

This game uses three red marbles and three blue marbles.

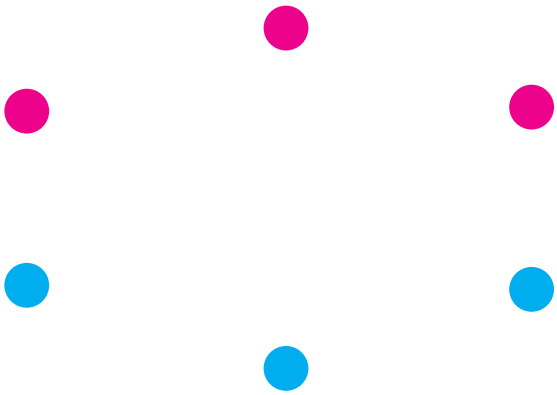
SAME

Draw cords to show all of the ways you could select two marbles of the same color.



DIFFERENT

Draw cords to show all of the ways you could select two marbles of different colors.

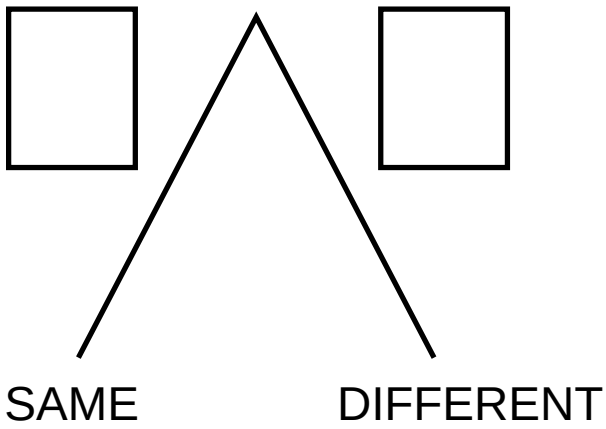


How many cords are for SAME? _____

How many cords are for DIFFERENT? _____

Altogether, how many cords did you draw? _____

Write the probabilities in the boxes.



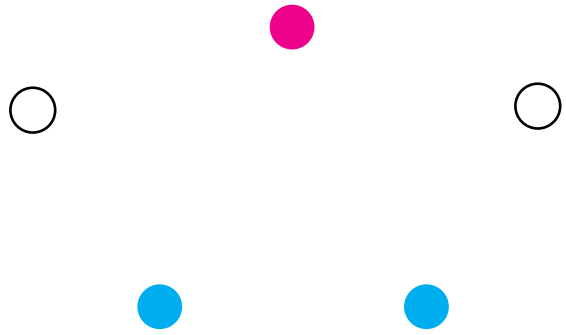
Which is more likely, SAME or DIFFERENT? _____

Name _____ P5

Suppose you have one red, two blue, and two white marbles.

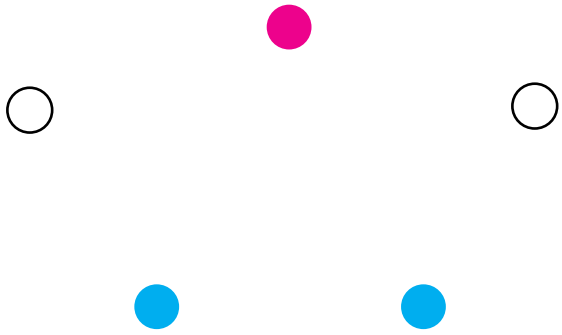
SAME

Show all of the possible ways of selecting two marbles of the same color.



DIFFERENT

Show all of the possible ways of selecting two marbles of different colors.

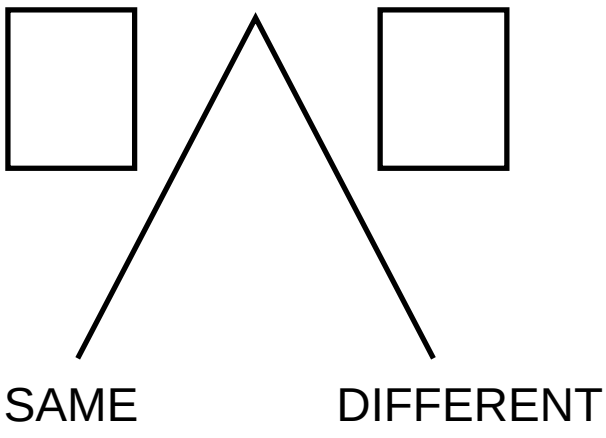


How many cords are for SAME? _____

How many cords are for DIFFERENT? _____

Altogether, how many cords did you draw? _____

Write the probabilities in the boxes.

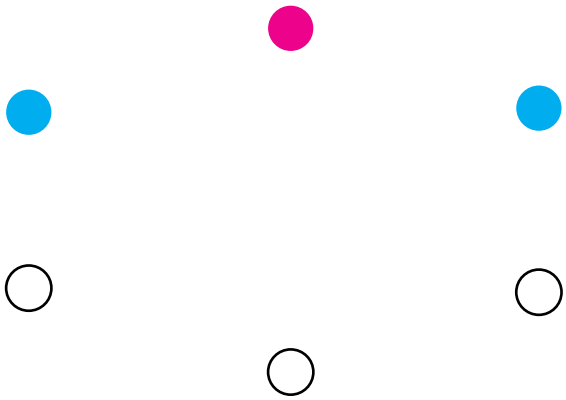


Which is more likely, SAME or DIFFERENT? _____

Suppose you have one red, two blue, and three white marbles.

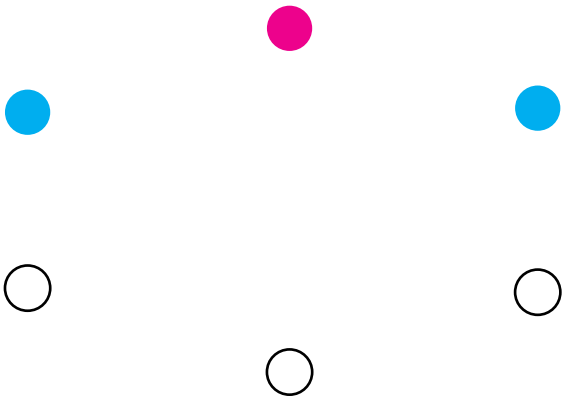
SAME

Show all of the possible ways of selecting two marbles of the same color.



DIFFERENT

Show all of the possible ways of selecting two marbles of different colors.

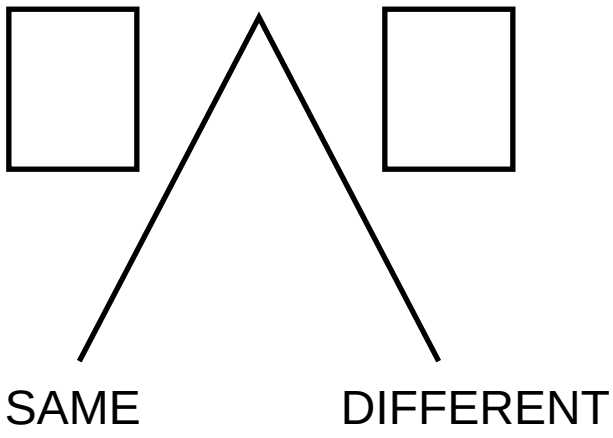


How many cords are for SAME? _____

How many cords are for DIFFERENT? _____

Altogether, how many cords did you draw? _____

Write the probabilities in the boxes.



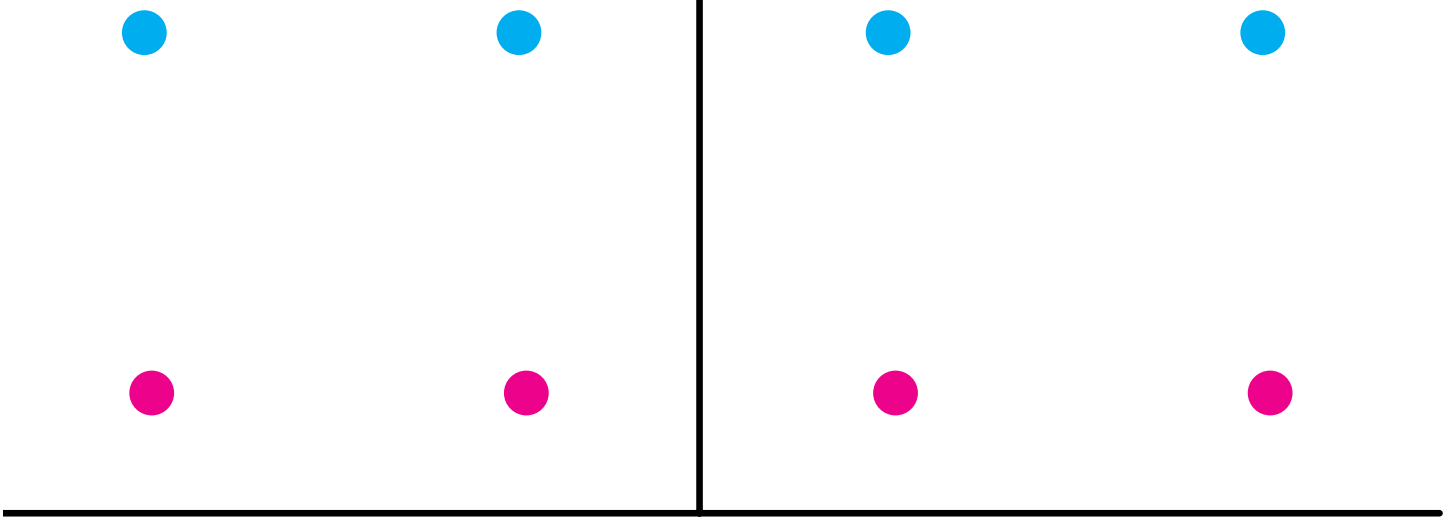
Which is more likely, SAME or DIFFERENT? _____

Name _____ P6 *

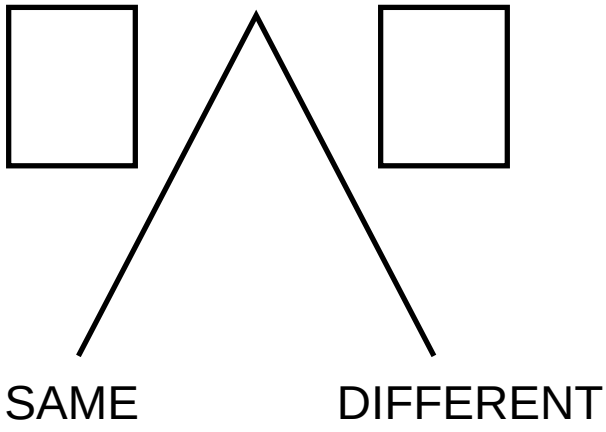
Suppose you have two red marbles and two blue marbles. You mix them up and select one marble at random. You put it back and select another marble at random.

Show all of the possible ways of selecting two marbles of the same color.

Show all of the possible ways of selecting two marbles of different colors.



Write the probabilities in the boxes.



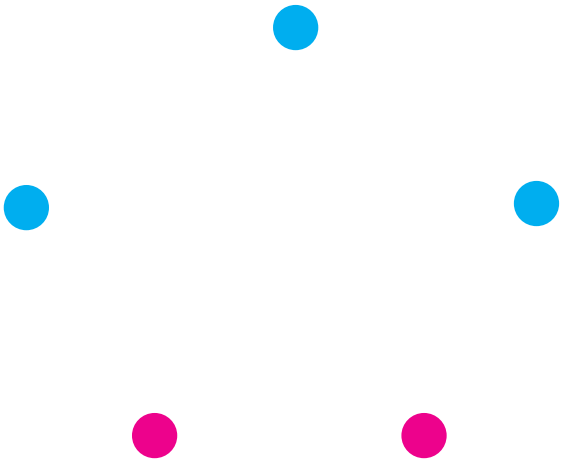
Which is more likely, SAME or DIFFERENT? _____

Name _____

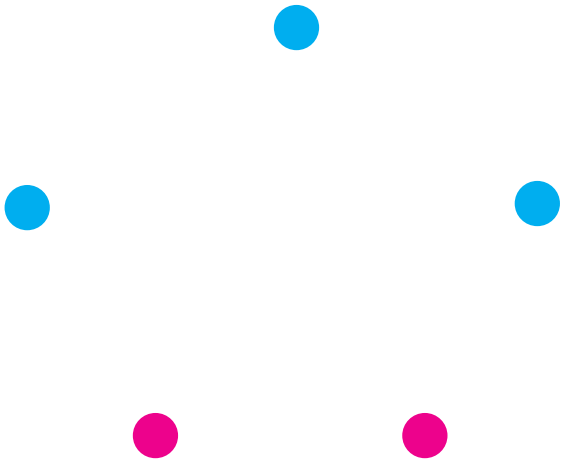
P6 **

Suppose you have two red marbles and three blue marbles. You mix them up and select one marble at random. You put it back and select another marble at random.

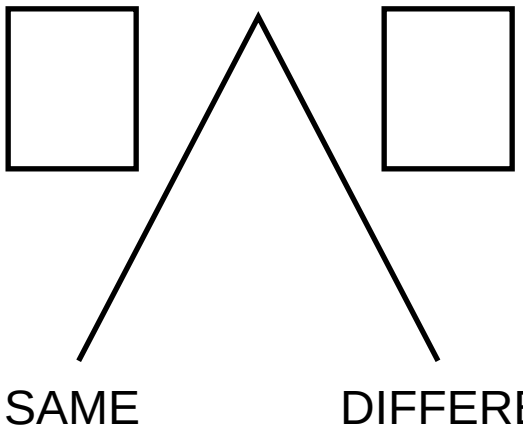
Show all of the possible ways of selecting two marbles of the same color.



Show all of the possible ways of selecting two marbles of different colors.



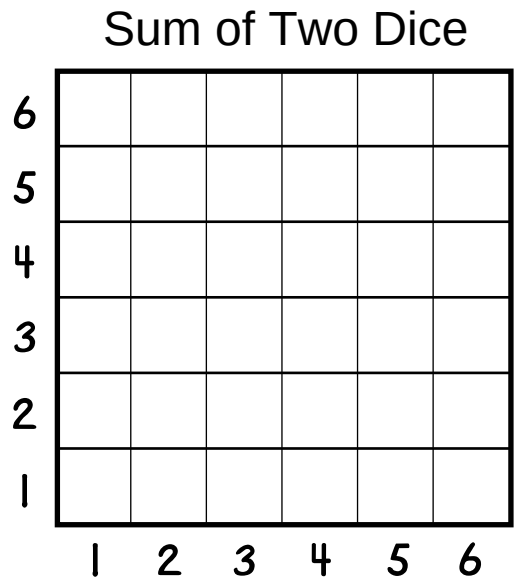
Write the probabilities in the boxes.



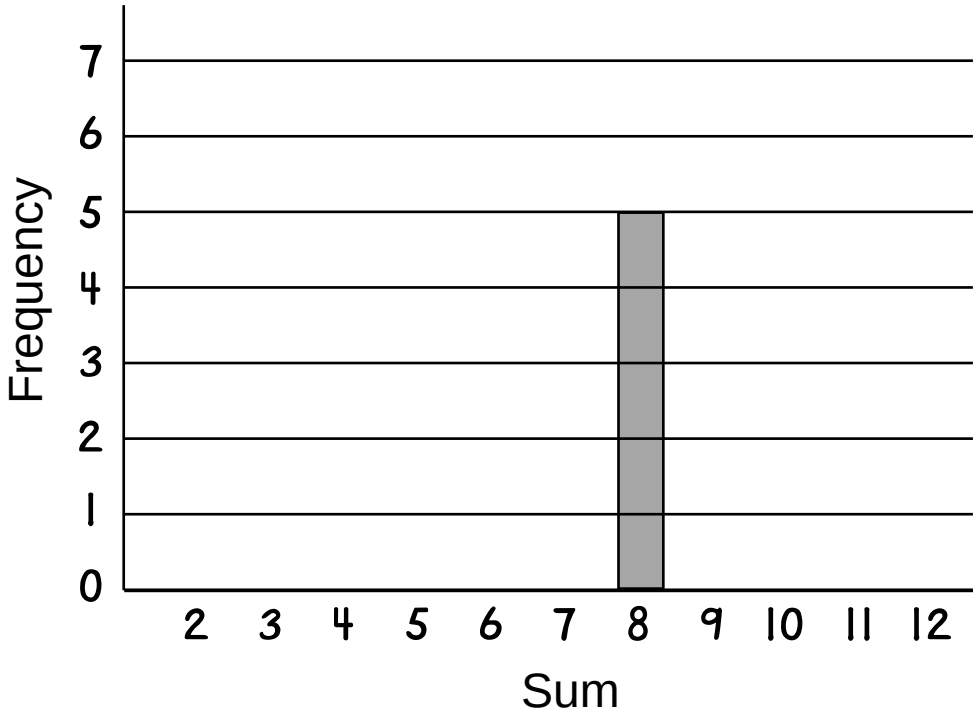
Which is more likely, SAME or DIFFERENT? _____

Name _____

P1(a)



Draw a bar graph to show the frequency of each sum. One is done for you.

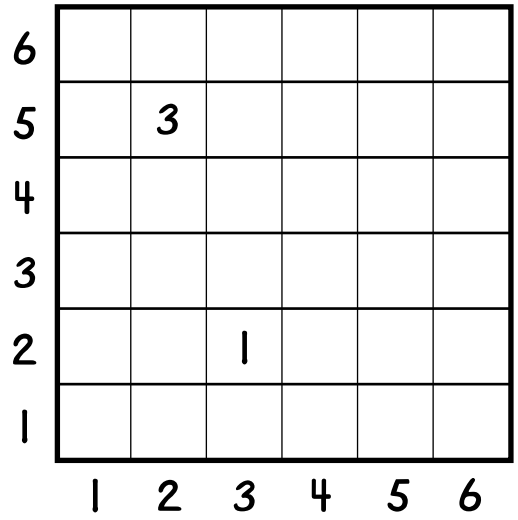


Name _____

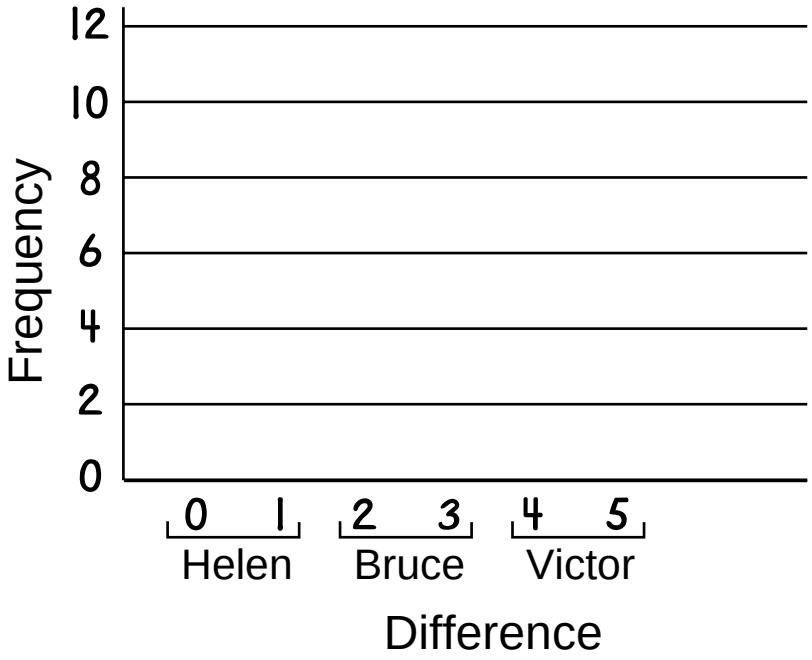
P1(b)

Complete. Two squares are filled in for you.

Difference of Two Dice



Draw a bar graph to show the frequency of each difference.



How many ways does Helen have to win? _____
How many ways does Bruce have to win? _____
How many ways does Victor have to win? _____

Name _____ P1 *

Use the information on Worksheet P1(a) to answer these questions.

What is the probability that the sum is 6? _____

What is the probability that the sum is not 6? _____

What is the probability that the sum is more than 6? _____

What is the probability that the sum is less than 6? _____

When Bruce goes home, Helen and Victor decide to continue playing the sum game. They wish to play a fair game. List the sums each person could take to make the game fair.

Helen _____

Victor _____

Explain why your solution produces a fair game.

Name _____ P1 **

Use the information on Worksheet P1(b) to answer these questions.

What is the probability that the difference is 1? _____

What is the probability that the difference is not 1? _____

What is the probability that the difference is 0? _____

What is the probability that the difference in not 0? _____

When Helen goes home, Bruce and Victor decide to continue playing the difference game. They want to play a fair game. List the differences each person could take to make a game fair.

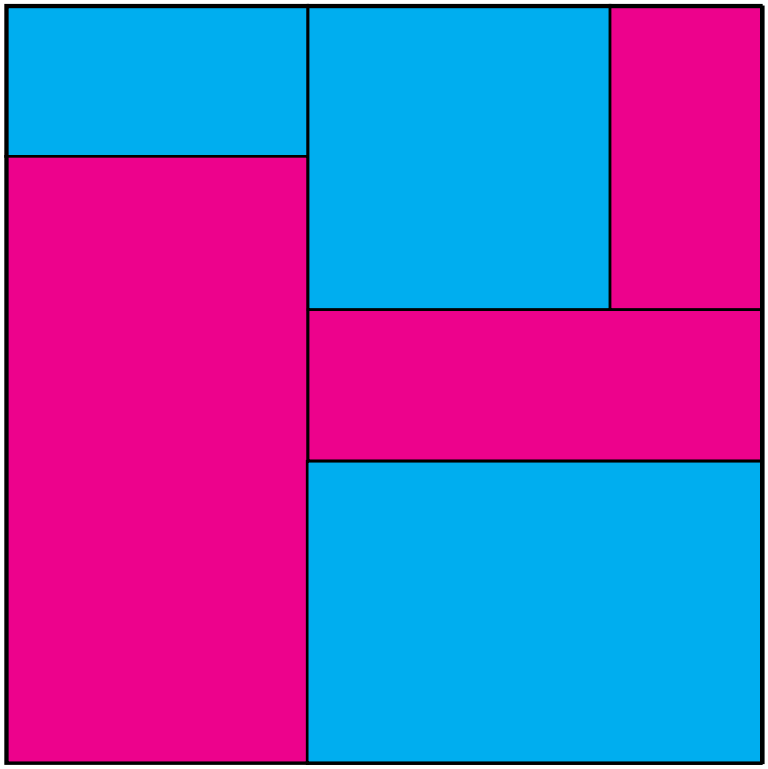
Bruce _____

Victor _____

Explain why your solution produces a fair game.

Name _____

P2 *



Use a ruler, if you wish, to answer these questions.

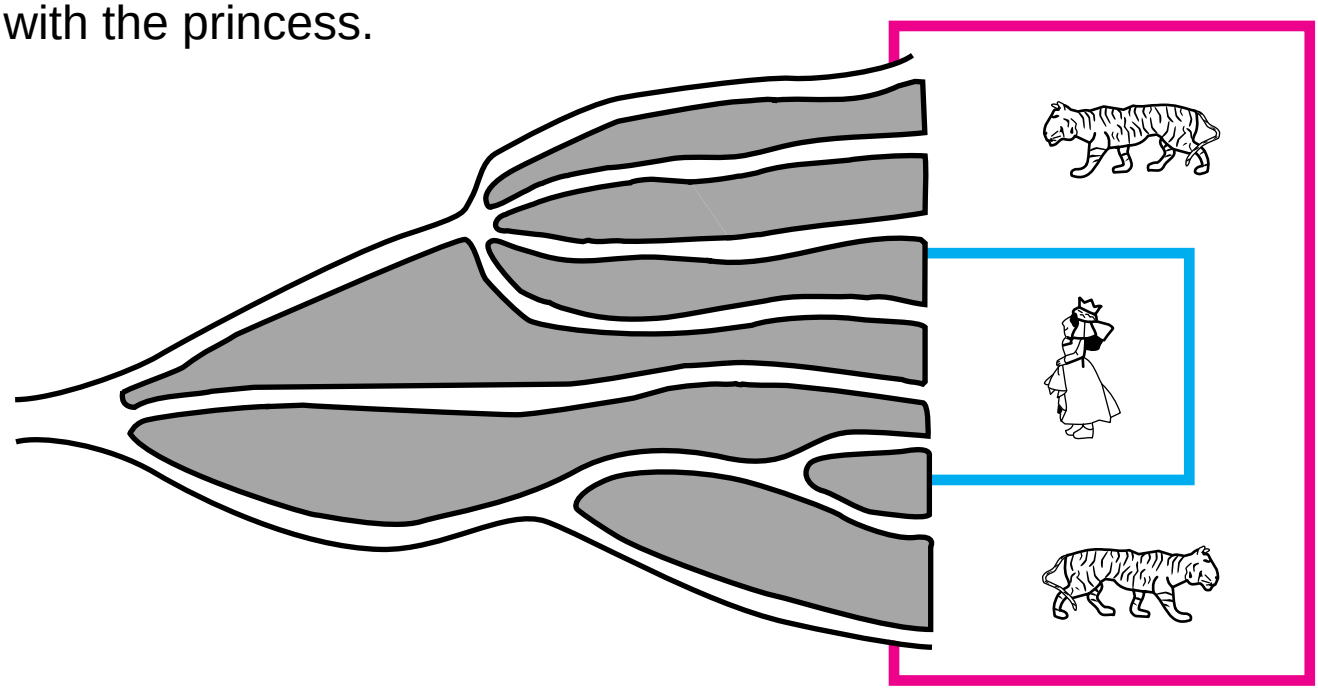
How many squares of this size  fit into the red region? _____

How many squares of this size  fit into the blue region? _____

Name _____

P2 **

The king has another maze near the castle. If Reynaldo goes through this maze, find his probability of entering the room with the princess.



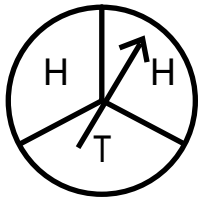
Use this square to help you solve the problem.

What is Reynaldo's probability of finding the princess? _____

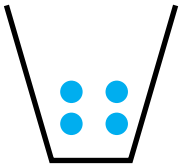
What is Reynaldo's probability of finding the tigers? _____

Name _____ P3

Alice, Bruce, and Carl agree to play the following game.

1. Spin this spinner. 

2. Select two marbles at random from the appropriate cup.

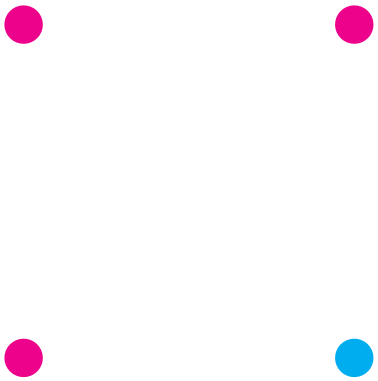


Winners: Alice wins if two red marbles are chosen.

Bruce wins if one red marble and one blue marble are chosen.

Carl wins if two blue marbles are chosen.

Use cords to show the winning combinations for cup H.



Use this square to show each player's probability of winning.

Alice ___ Bruce ___ Carl ____

Name _____

P4(a)

Decode this message.

W	E		J	E		J	X	U		S	H	U	U	A		D	U	Q	H			
J	X	U		B	Q	I	J		J	H	Q	Y	D		I	J	Q	J	Y	E	D	
M	X	U	H	U		Q		J	H	U	U		X	Q	I		V	Q	B	B	U	D
E	L	U	H		J	X	U		M	Q	J	U	H		Y	D	I	Y	T	U		
J	X	U		J	H	U	U		O	E	K		M	Y	B	B		V	Y	D	T	
Q		V	E	H	C	K	B	Q		V	E	H		Q		I	U	S	H	U	J	
F	E	J	Y	E	D		M	Y	J	X		J	X	Y	I		F	E	J	Y	E	D
M	U		M	Y	B	B		H	K	B	U		J	X	U		M	E	H	B	T	

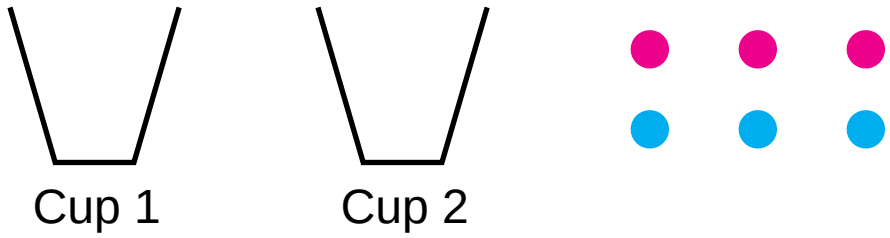
Name _____ P4(b)

Determine the number of times each letter appears in the message.

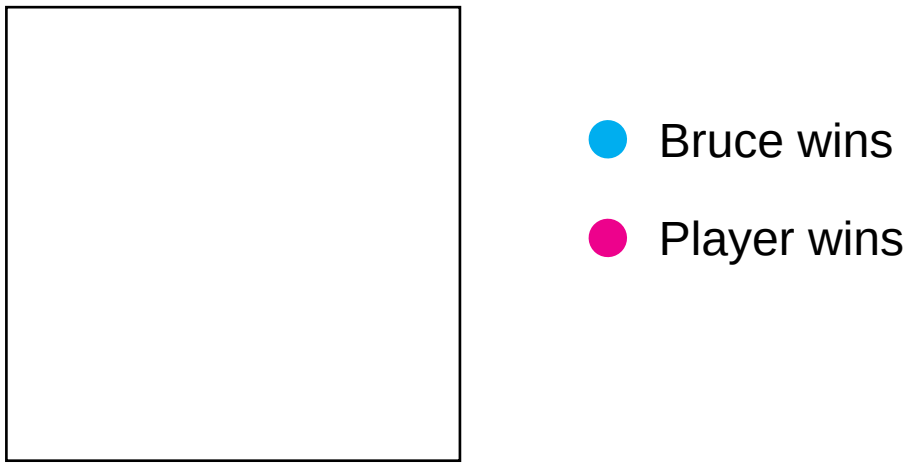
Letter	Frequency	Letter	Frequency
A	_____	N	_____
B	_____	O	_____
C	_____	P	_____
D	_____	Q	_____
E	_____	R	_____
F	_____	S	_____
G	_____	T	_____
H	_____	U	_____
I	_____	V	_____
J	_____	W	_____
K	_____	X	_____
L	_____	Y	_____
M	_____	Z	_____

Name _____ P6

Distribute 3 red marbles and 3 blue marbles into the two cups. Use all 6 marbles and put at least one marble in each cup.



Use the square below to calculate the probabilities of winning with this distribution of marbles.

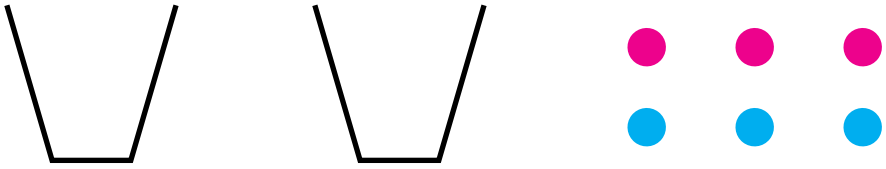


What is Bruce's probability of winning? _____

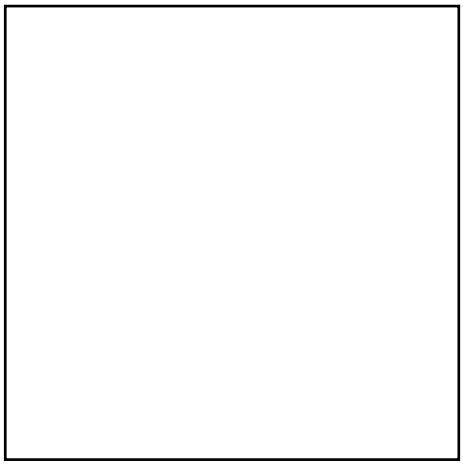
What is the player's probability of winning? _____

Who is favored, Bruce or the player? _____

Distribute 3 red marbles and 3 blue marbles into the two cups. Use all 6 marbles and put at least one marble in each cup.



Use the square below to calculate the probabilities of winning with this distribution of marbles.



Bruce wins

Player wins

What is Bruce's probability of winning? _____

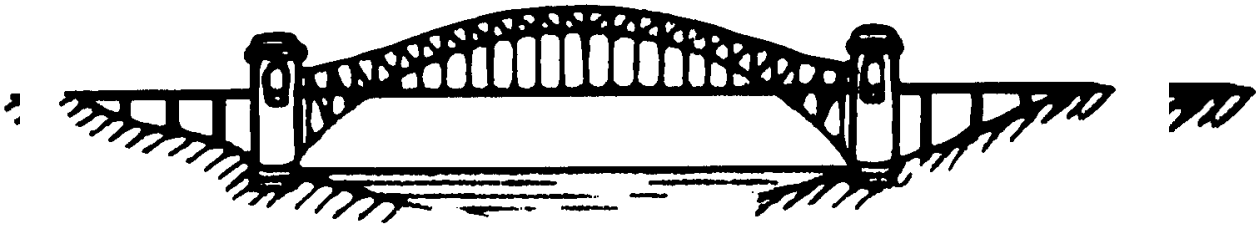
What is the player's probability of winning? _____

Who is favored, Bruce or the player? _____

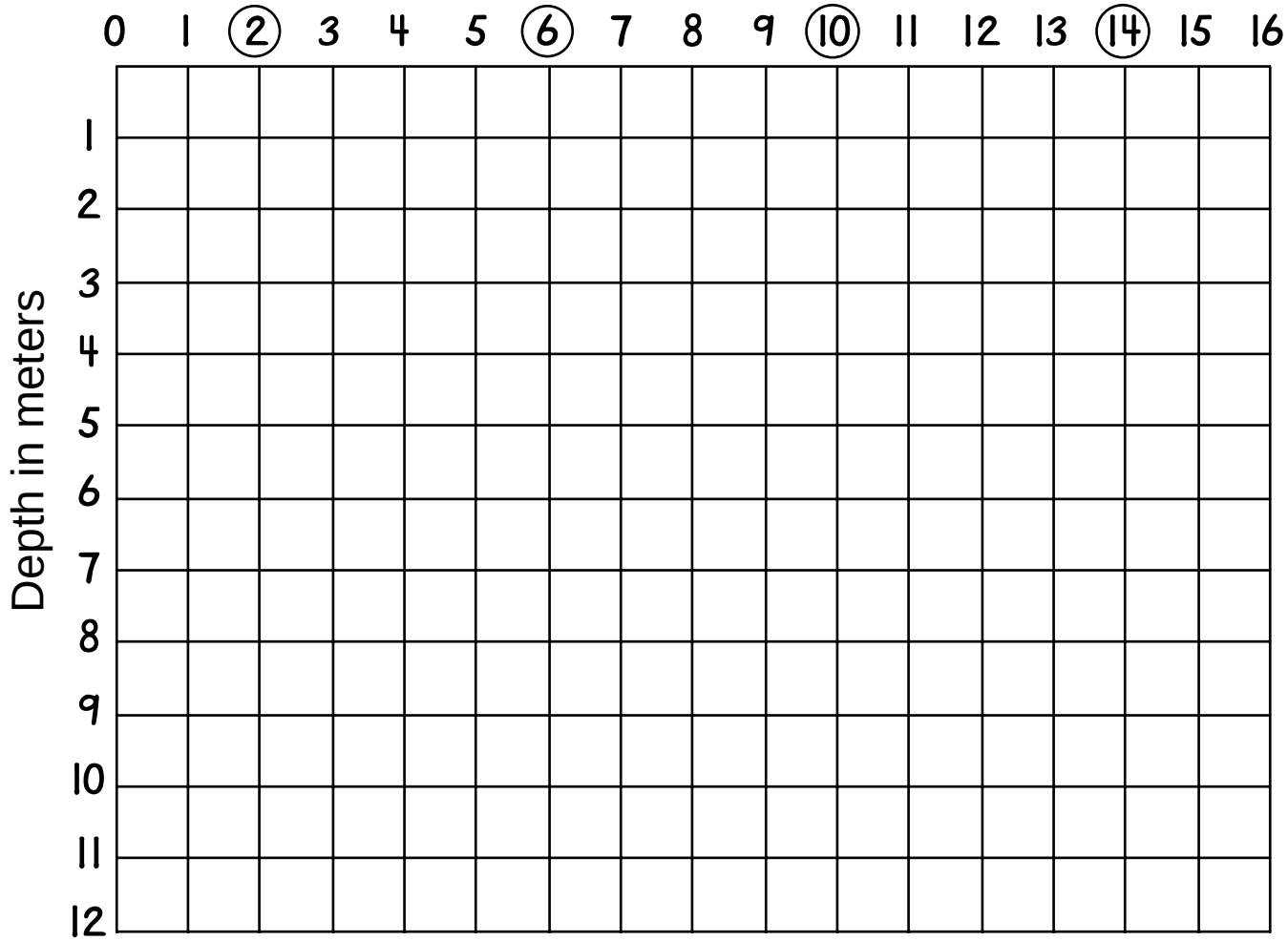
Name _____

P5(a)

Measurements of the depth of the water below a bridge are taken at 2, 6, 10, and 14 meters from the lake shore. The mean average depth is 2 meters. Draw a possible profile of the lake below the bridge.



Distance from the shore in meters



Name _____

P5(b)

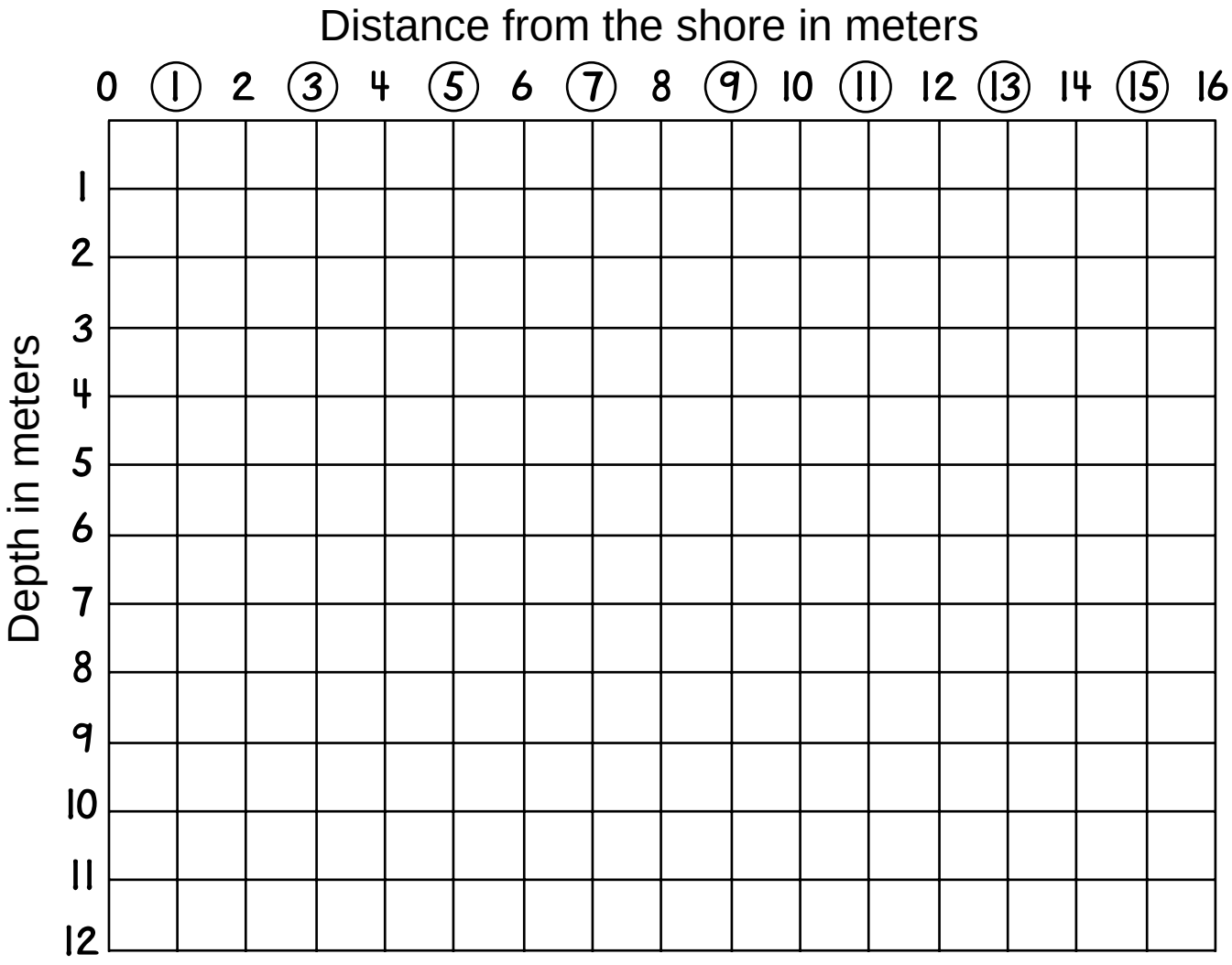
This is the data the park ranger provided for the depth of the water below the bridge.

8 measurements
Mean: 2 meters
Mode: 1 meter
Range: 1 to 8 meters

What could the eight measurements have been?

____m, ____m, ____m, ____m, ____m, ____m, ____m, ____m

Measurements were taken at 1, 3, 5, 7, 9, 11, 13, and 15 meters from the lake shore. Based on the eight measurements you listed, draw a profile of the lake below the bridge.

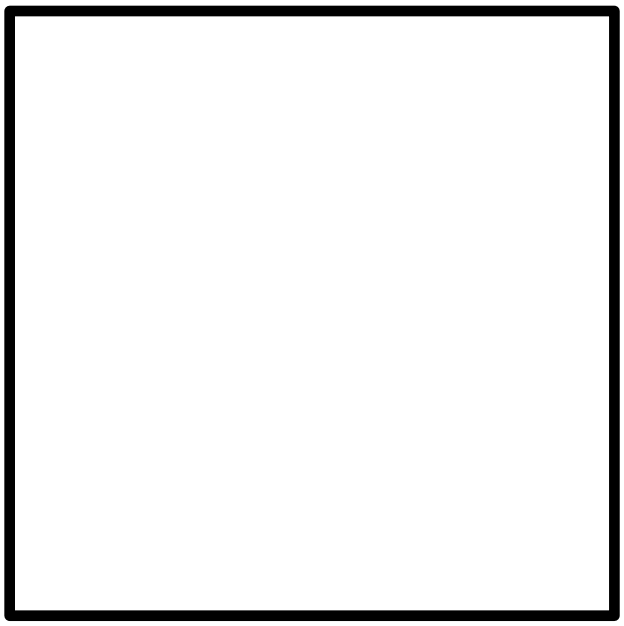


Name _____ P7

Rita: 9 Bruce: 8

Rita leads Bruce 9-8 in a game to 10 points when they must stop playing. Use this square to calculate each player's probability of winning.

9 – 8



What is Rita's probability of winning? _____ Bruce's _____

If Rita and Bruce each put 50¢ into a pot, how should they share the $1.00 when the game stops at 9-8? Rita _____ Bruce _____

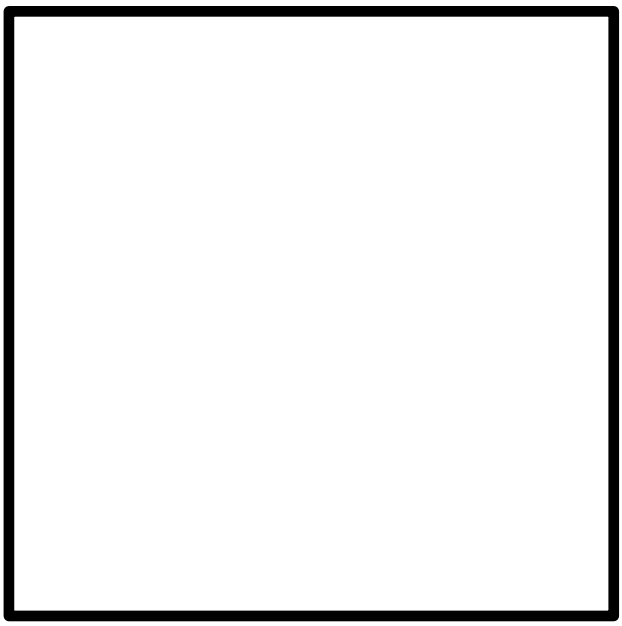
Name _____

P8 *

Rita: 9 Bruce: 9

Rita and Bruce are tied in a game to 10 points when they must stop playing. Use this square to calculate each player's probability of winning.

9 – 9



What is Rita's probability of winning? _____ Bruce's _____

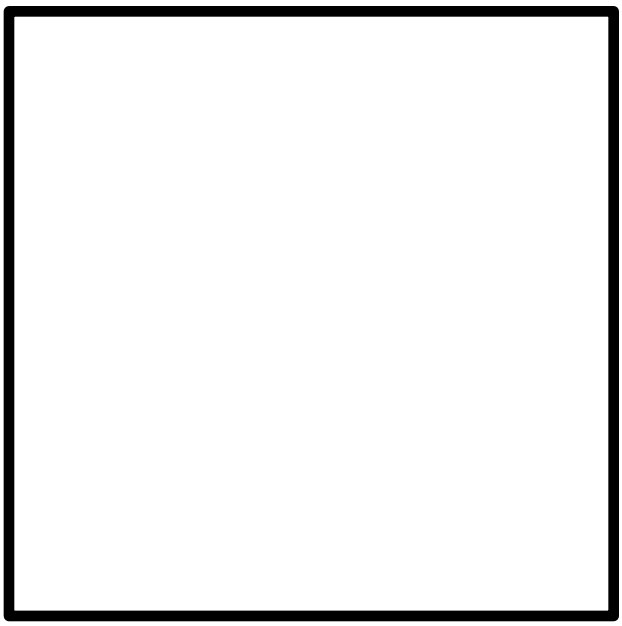
Name _____

P8 **

Rita: 9 Bruce: 6

Rita leads Bruce 9-6 in a game to 10 points when they must stop playing. Use this square to calculate each player's probability of winning.

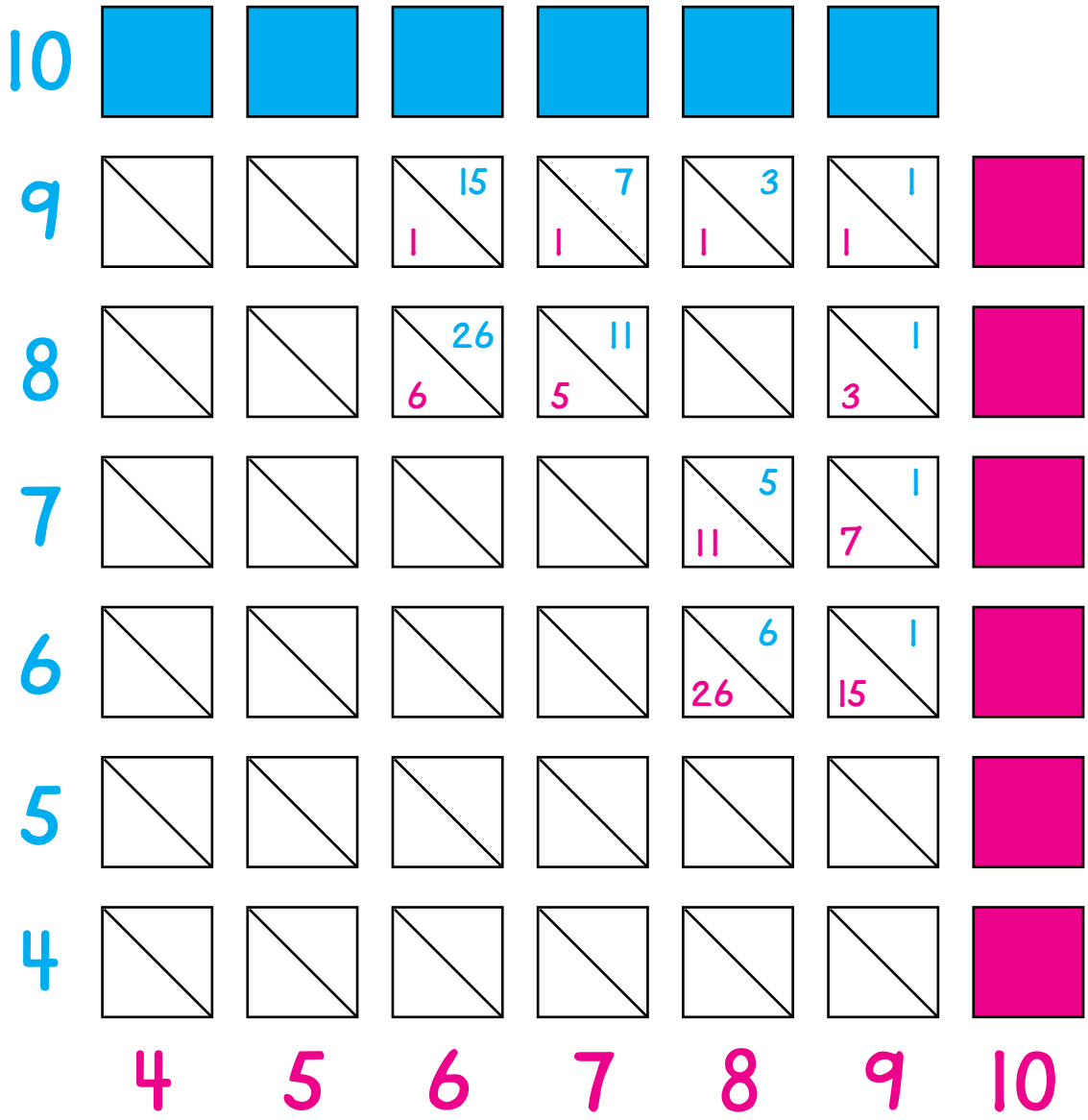
9 – 6



What is Rita's probability of winning? _____ Bruce's _____

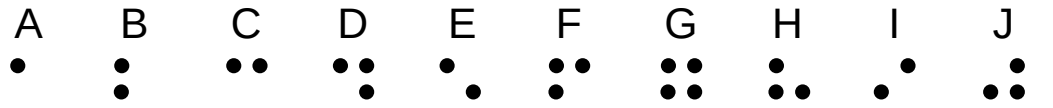
Name _____

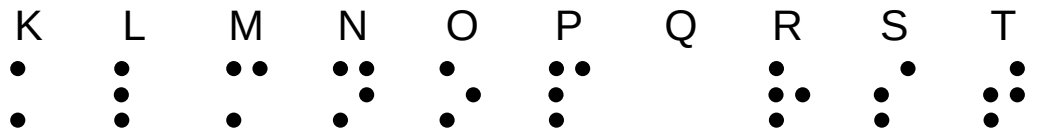
P9

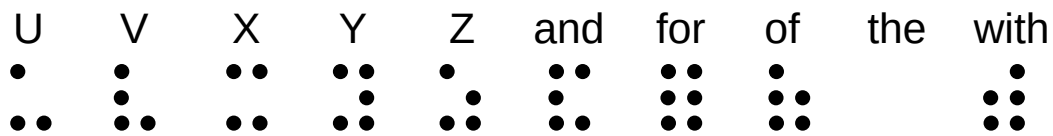


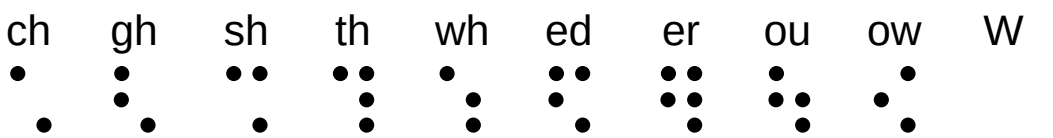
Name _____

P1(a)


A B C D E F G H I J

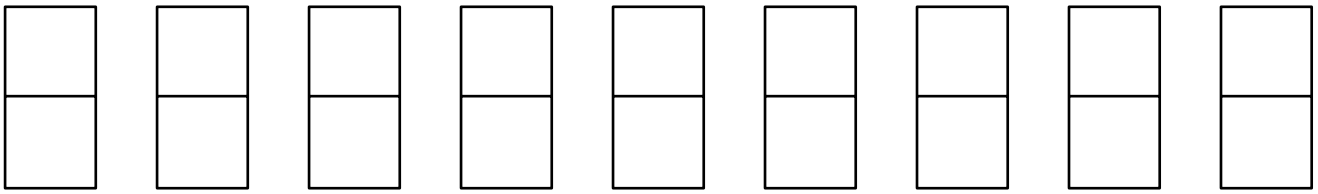

K L M N O P Q R S T

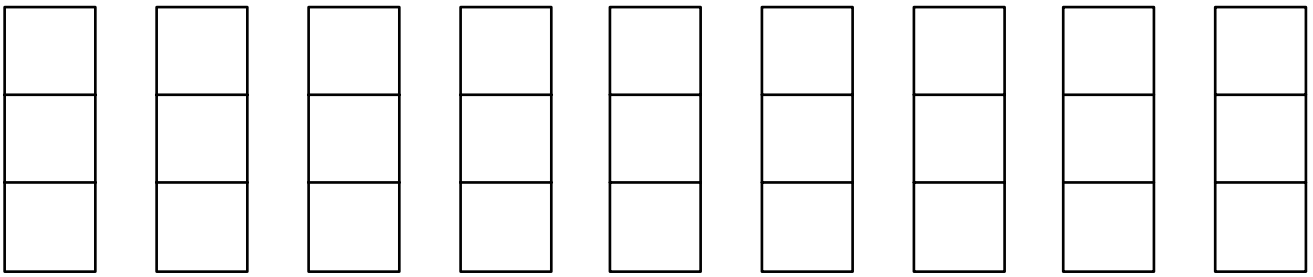

U V X Y Z and for of the with

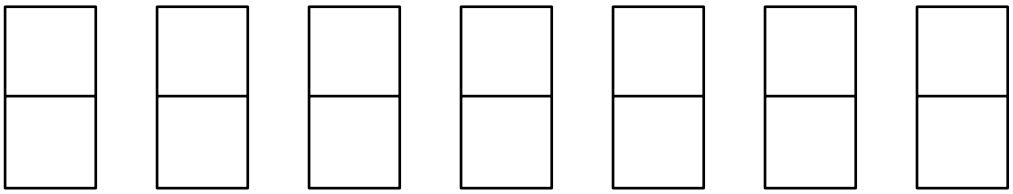

ch gh sh th wh ed er ou ow W

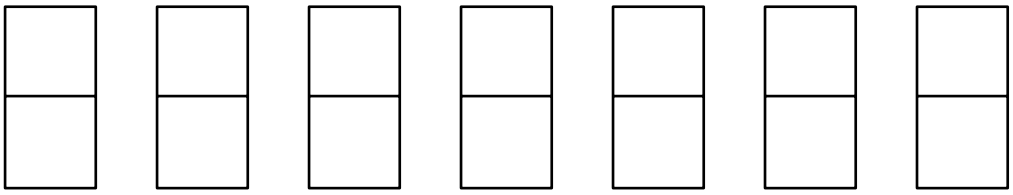
Name _____

P1(b)



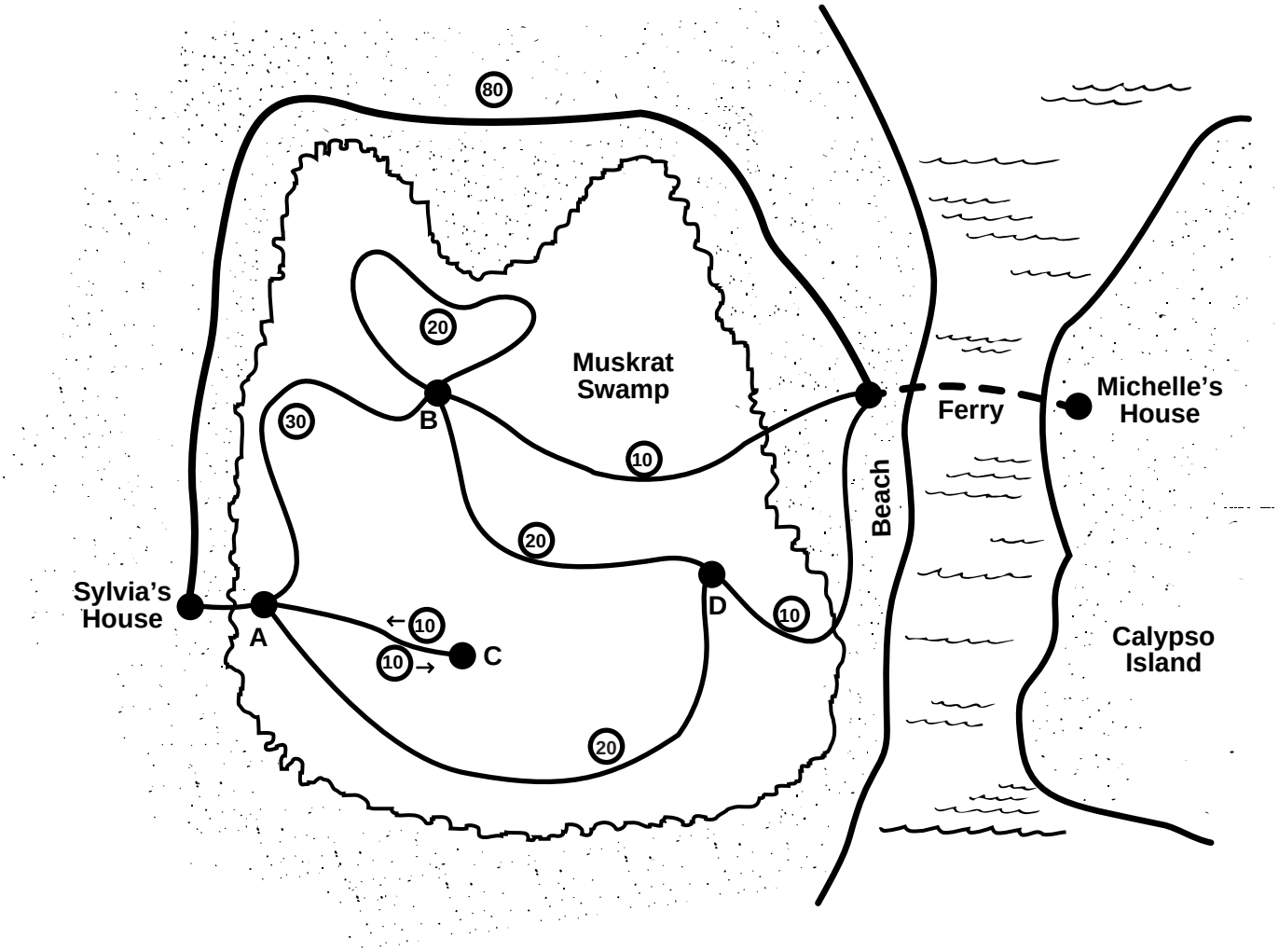






Name _____

P2 *



Sylvia must get to the ferry in 40 minutes.

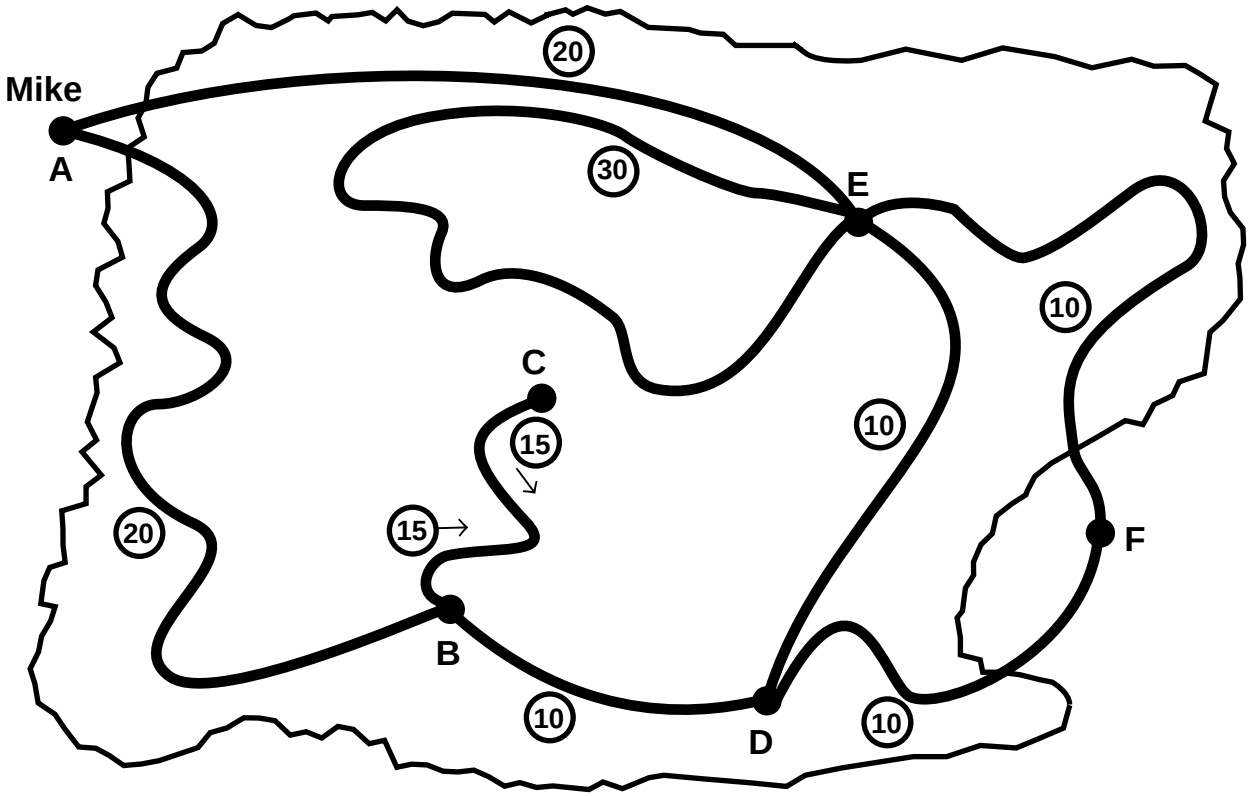
Use a square to calculate her probability of arriving on time.

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?

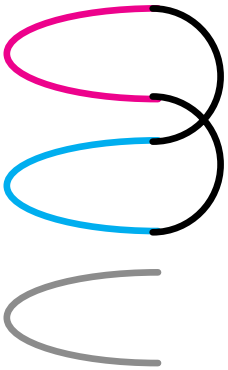
_____

● On time ● Late

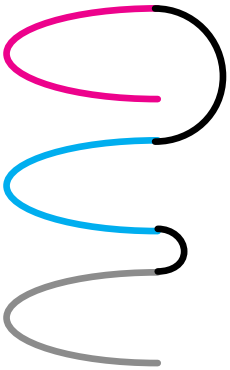
Name _____

P3(a)

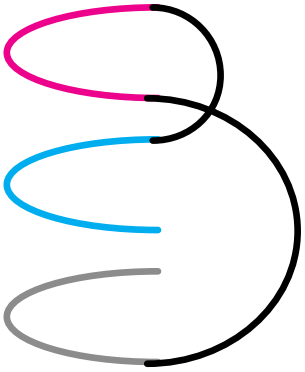
For each picture, do the two knots form one long piece of rope? Circle your answer.



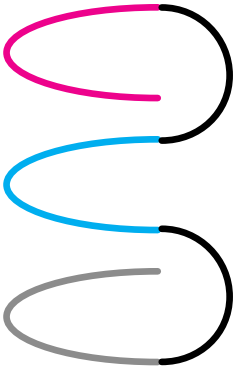
Yes No



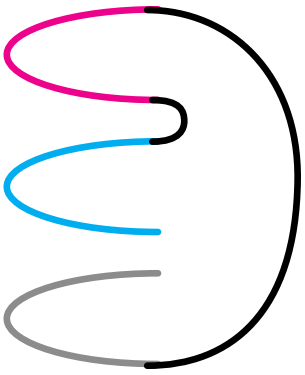
Yes No



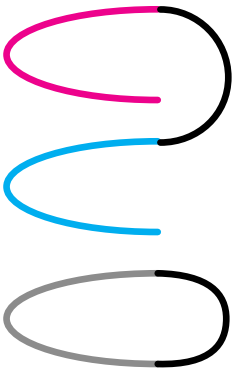
Yes No



Yes No



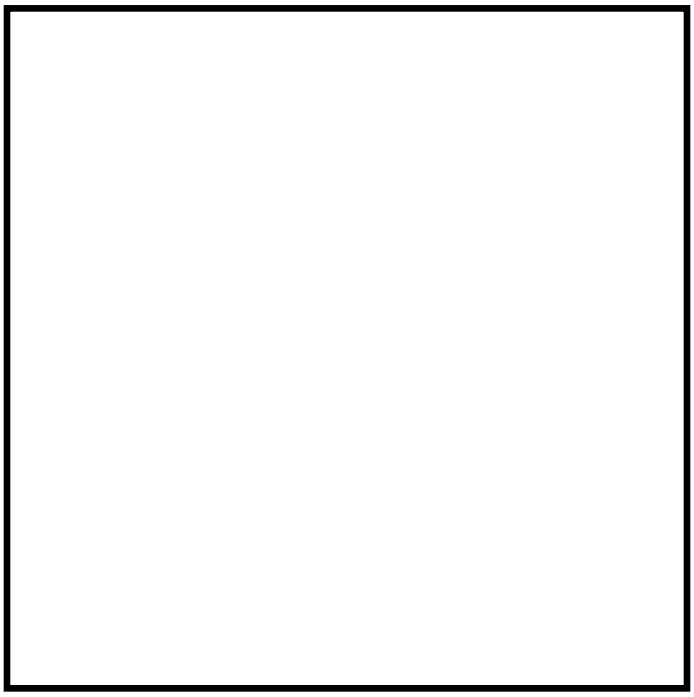
Yes No



Yes No

Name _____

P3(b)



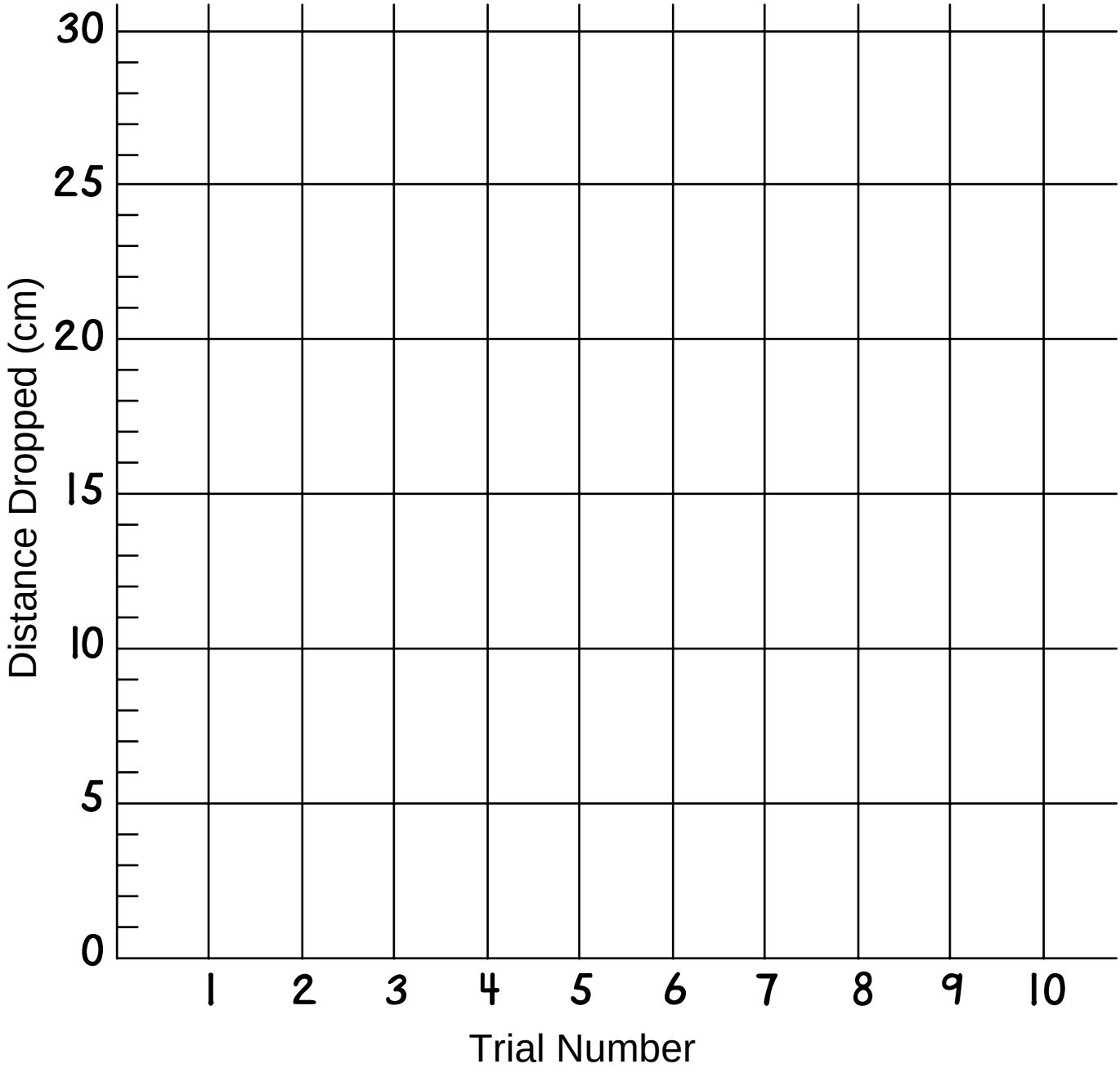
Failure

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 _____

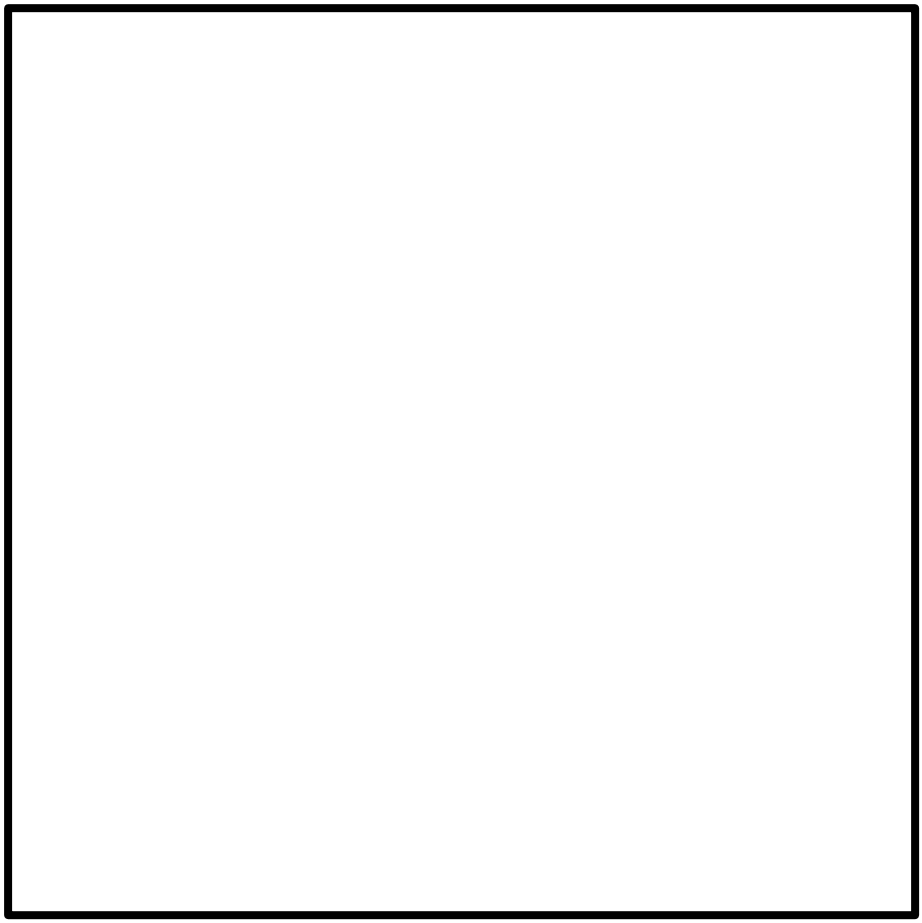
P5(a)

Problem #1

Group: _____

Teacher selects the _____ cube.

Student selects the _____ cube.



Answer: p (_____, _____) = _____

Name _____

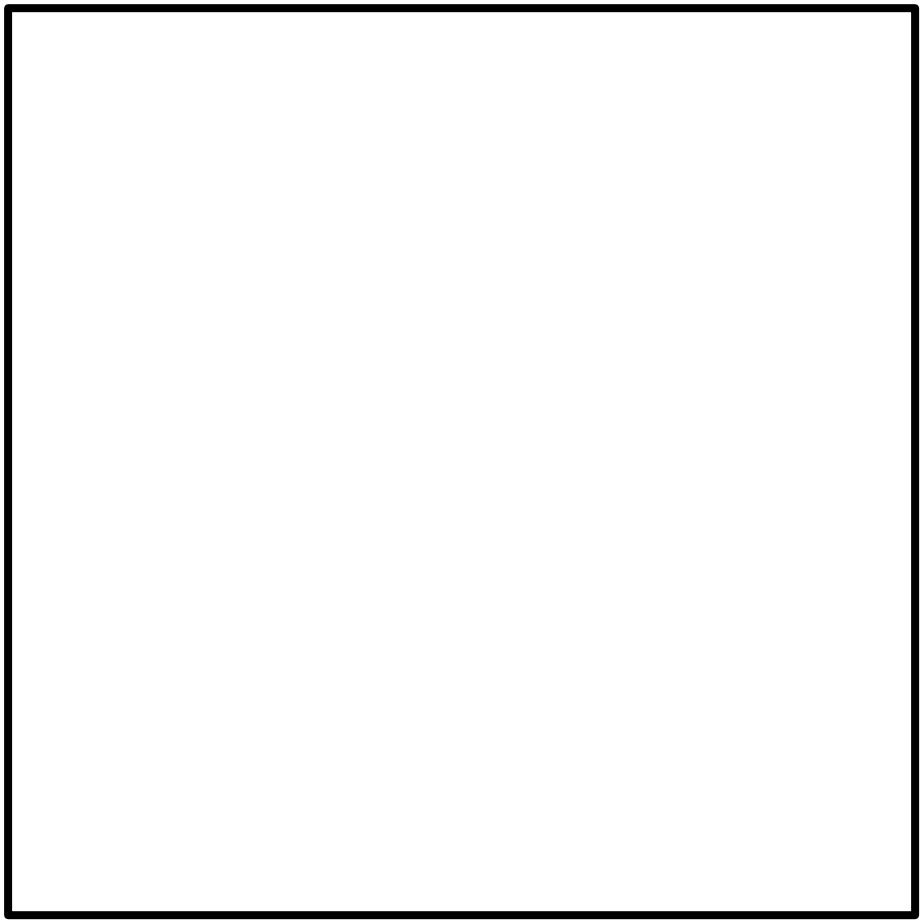
P5 (b)

Problem #2

Group: _____

Teacher selects the _____ cube.

Student selects the _____ cube.

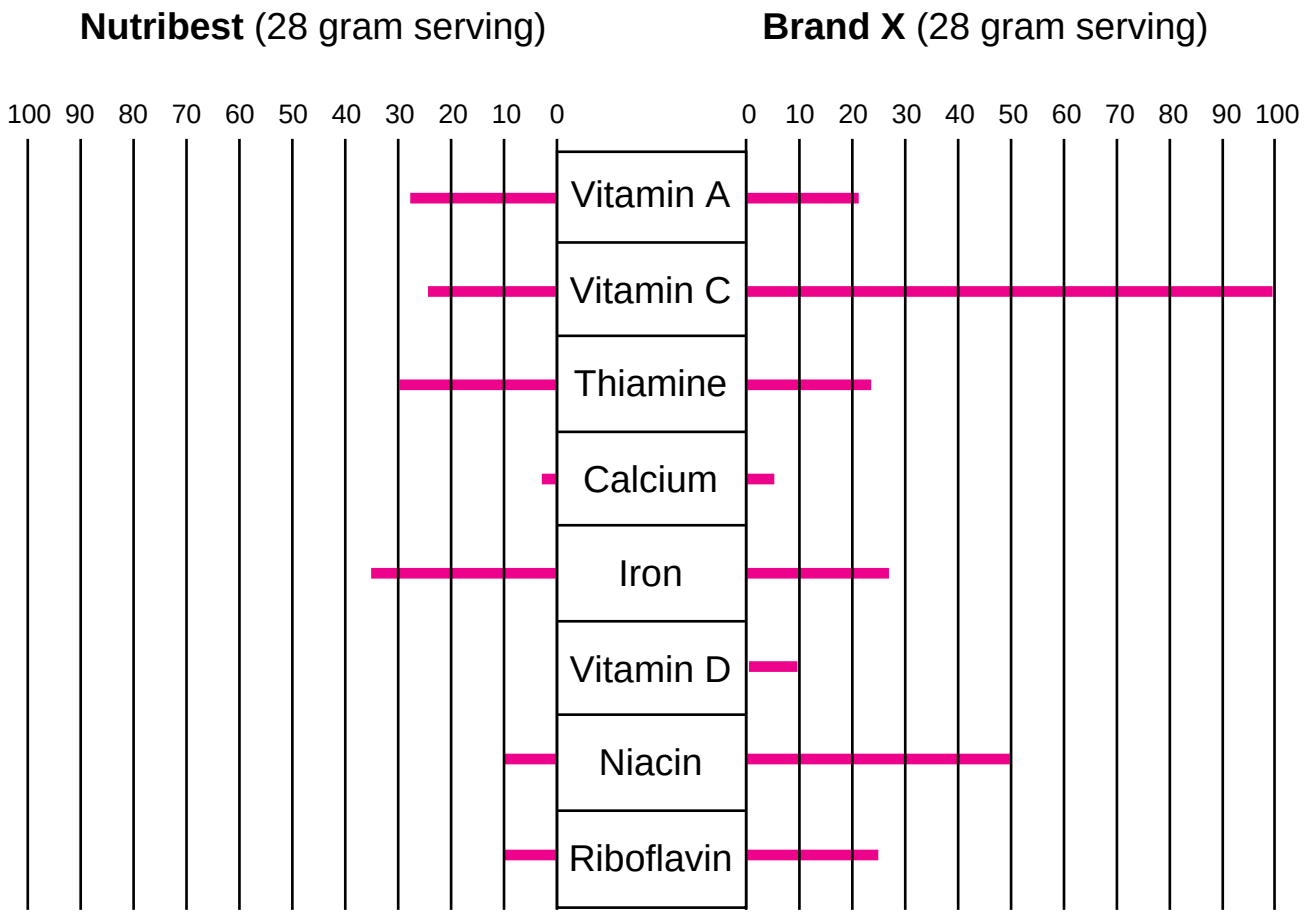


Answer: p (_____, _____) = _____

Name _____

P8(a)

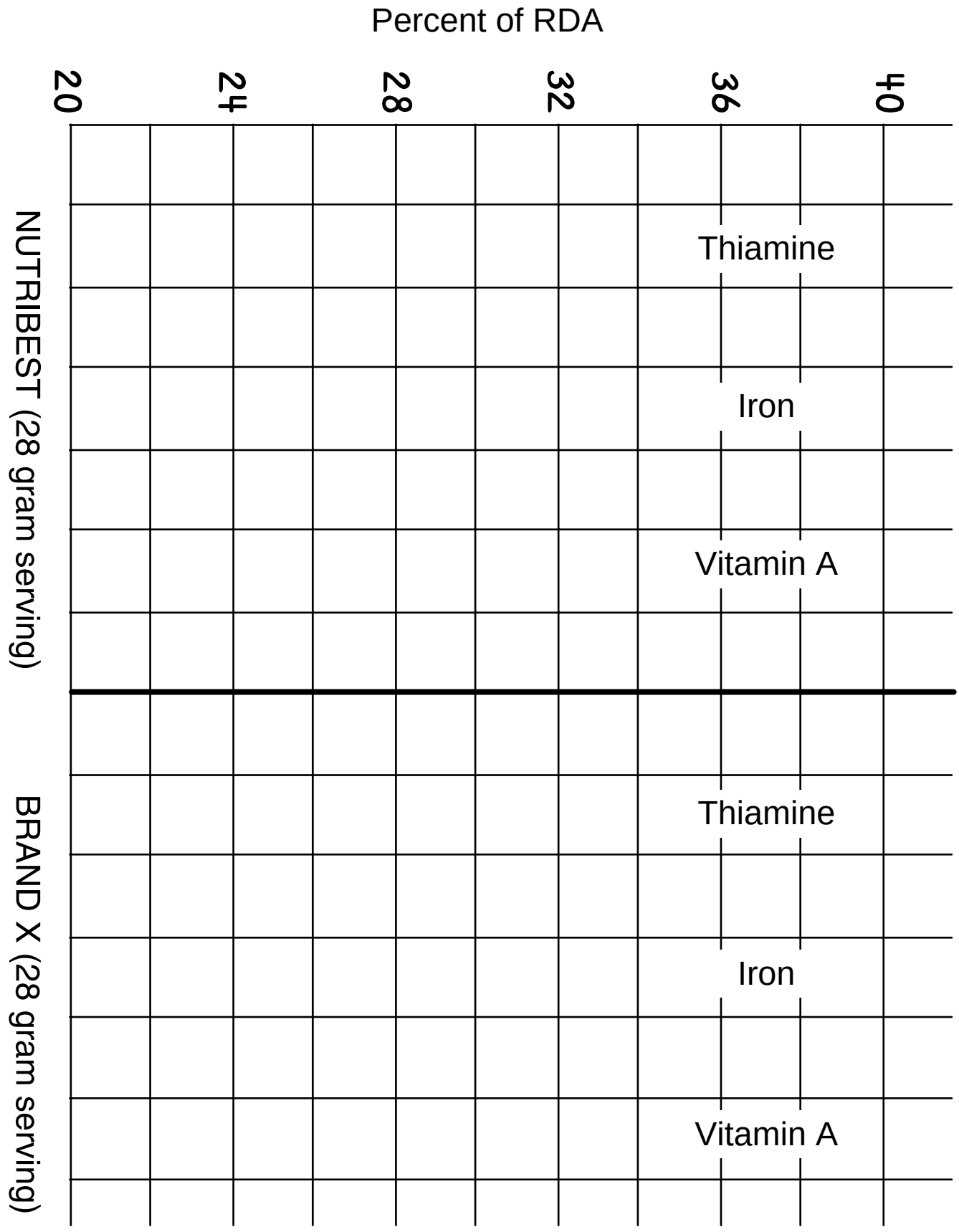
Percent of Recommended Daily Allowance (RDA)
(U.S. Department of Agriculture)



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

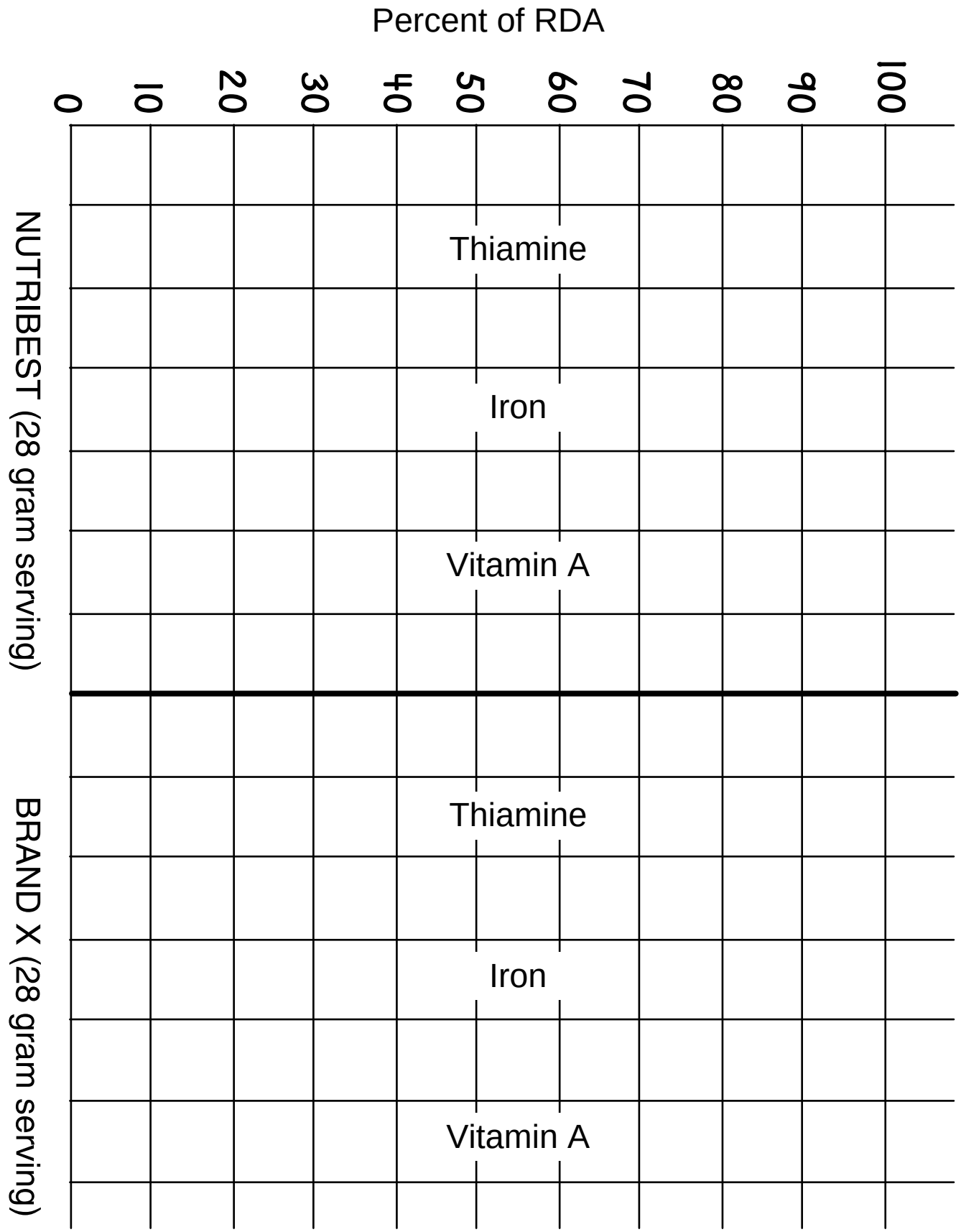
Name _____

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