



Timester Challenge

Sample Space Diagrams



List all possible outcomes from when a coin is thrown and a picture card is selected from a deck of cards.

H			
T			
	J	Q	K

Bronze ★

Two coins are thrown.
List all possible outcomes.

H		
T		
	H	T

What is the probability of throwing a head and a tail?

What is the probability of both coins landing on the same side?

Bronze ★

Alex is playing a game.

He has two sets of cards.

One set has three black cards, numbered 2, 4 and 6.

The other set has three white cards numbered 1 and 3.



He works out his score by adding the numbers on the cards together.

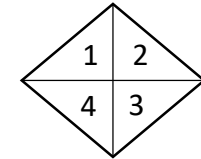
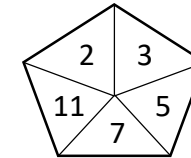
a) Complete the sample space diagram.

1			
3			
	2	4	6

b) What is the probability that Alex gets

- An odd numbered score?
- A score of 5 or less?

Silver ★



Two fair spinners are spun

Each spinner will land on a number.

Matt will get a score by adding the two numbers together.

a) Draw a sample space diagram to represent this information.

b) What is the probability that Matt scores

- A score which is prime?
- A score of 6?
- A score of 9 or more?

Gold ★



Timester Challenge

Sample Space Diagrams

Answers



List all possible outcomes from when a coin is thrown and a picture card is selected from a deck of cards.

H	JH	QH	KH
T	JT	QT	KT
	J	Q	K

Bronze ★

Two coins are thrown.
List all possible outcomes.

H	HH	TH
T	HT	TT
	H	T

What is the probability of throwing a head and a tail?
 $\frac{2}{4} = \frac{1}{2}$

What is the probability of both coins landing on the same side?
 $\frac{2}{4} = \frac{1}{2}$

Bronze ★

Alex is playing a game.
He has two sets of cards.
One set has three black cards, numbered 2, 4 and 6.
The other set has three white cards numbered 1 and 3.

2
4
6
1
3

He works out his score by adding the numbers on the cards together.

a) Complete the sample space diagram.

1	3	5	7
3	5	7	9
	2	4	6

b) What is the probability that Alex gets

- An odd numbered score? $\frac{6}{6} = 1$
- A score of 5 or less? $\frac{3}{6} = \frac{1}{2}$ **Silver** ★

Two fair spinners are spun
Each spinner will land on a number.
Matt will get a score by adding the two numbers together.

a) Draw a sample space diagram to represent this information.

4	6	7	9	11	15
3	5	6	8	10	14
2	4	5	7	9	13
1	3	4	6	8	12
	2	3	5	7	11

b) What is the probability that Matt scores

- A score which is prime? $\frac{7}{20}$
- A score of 6? $\frac{3}{20}$
- A score of 9 or more? $\frac{8}{20} = \frac{2}{5}$ **Gold** ★