

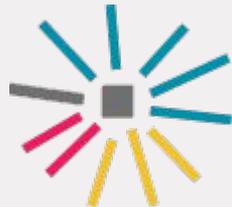
3D SPACE

PALIMPSEST

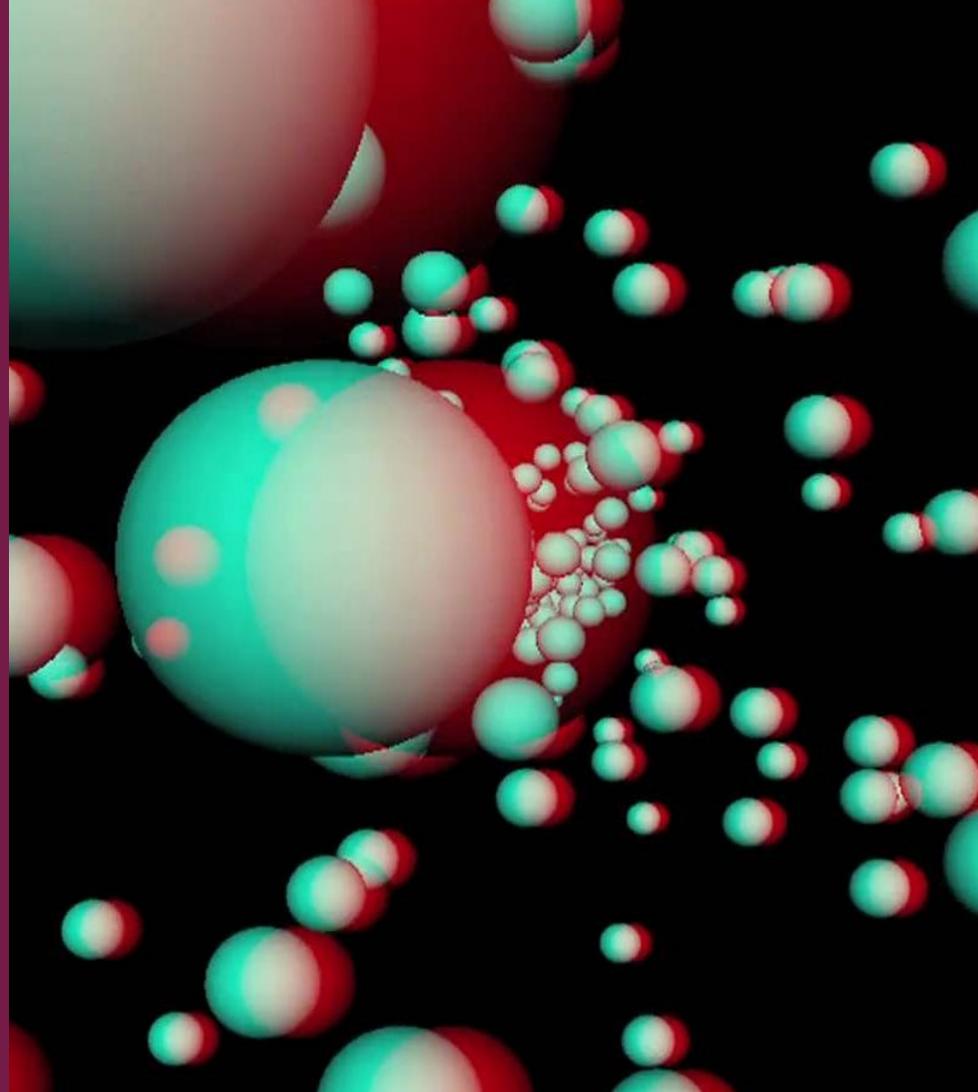
3D SPACE

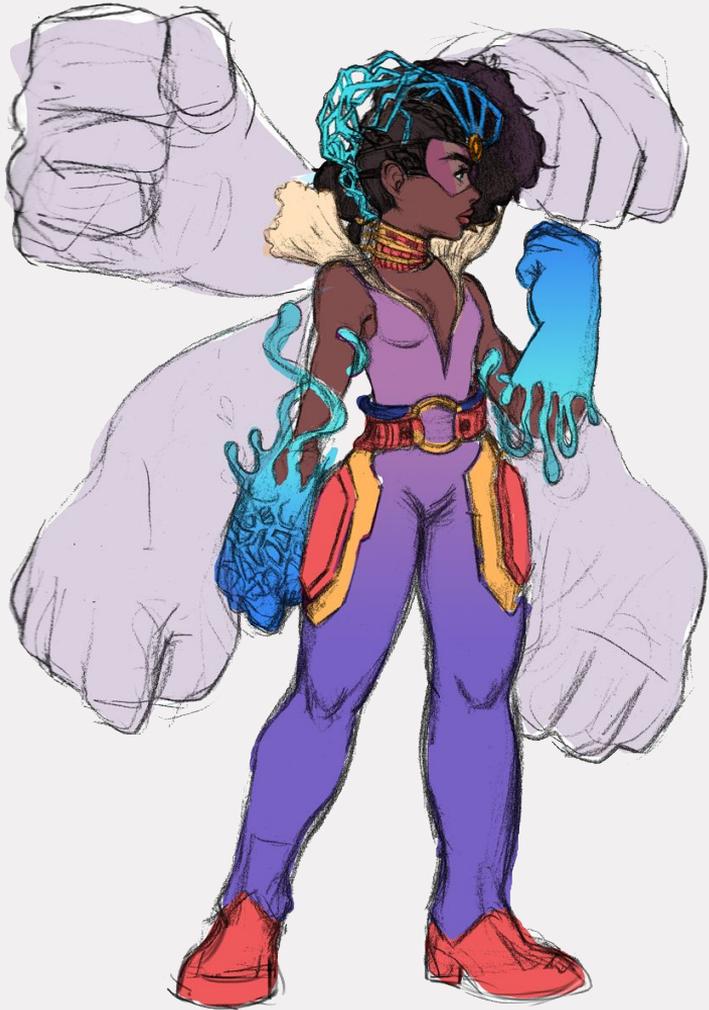
- Representations of Space
- 0D
- 1D
- 2D
- 3D
- Coordinate Systems
- EXERCISE

3D SPACE



What is it?





**It's the world as we
perceive it.**

Objects have:

Positions

Objects have:

**Positions relative
to one another**

Objects have:

THERE

HERE

Objects have:

FAR

NEAR

Objects have:



DUH, RIGHT?

It matters because:

It matters because:

**To make a game
we have to FAKE
ALL OF THIS**

It matters because:

To make a game
we have to FAKE
ALL OF THIS

It matters because:

To make a game
we have to FAKE
ALL OF THIS

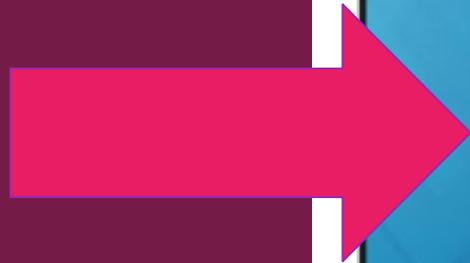
WITH MATH

It matters because:

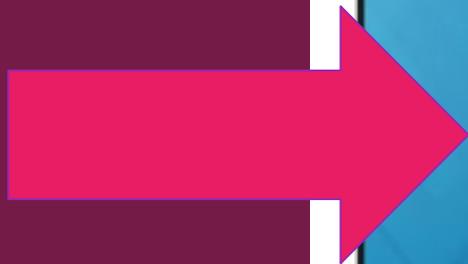
To make a game
we have to FAKE
ALL OF THIS

WHY???

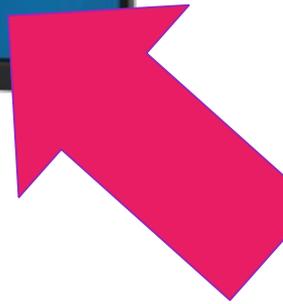
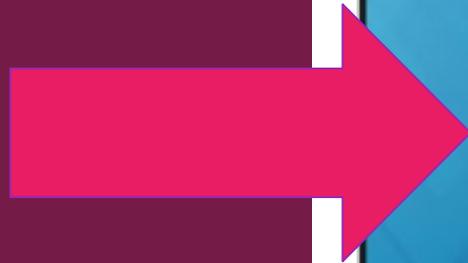
This



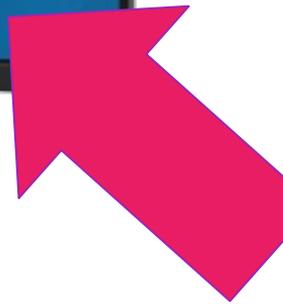
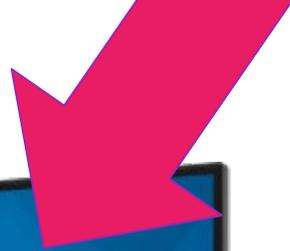
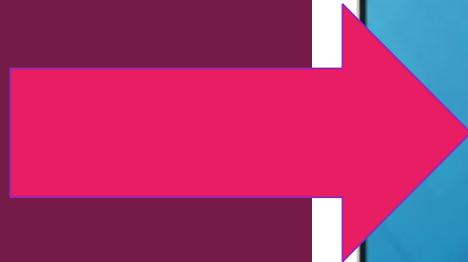
This



This



This



How many
dimensions
does a screen
have?

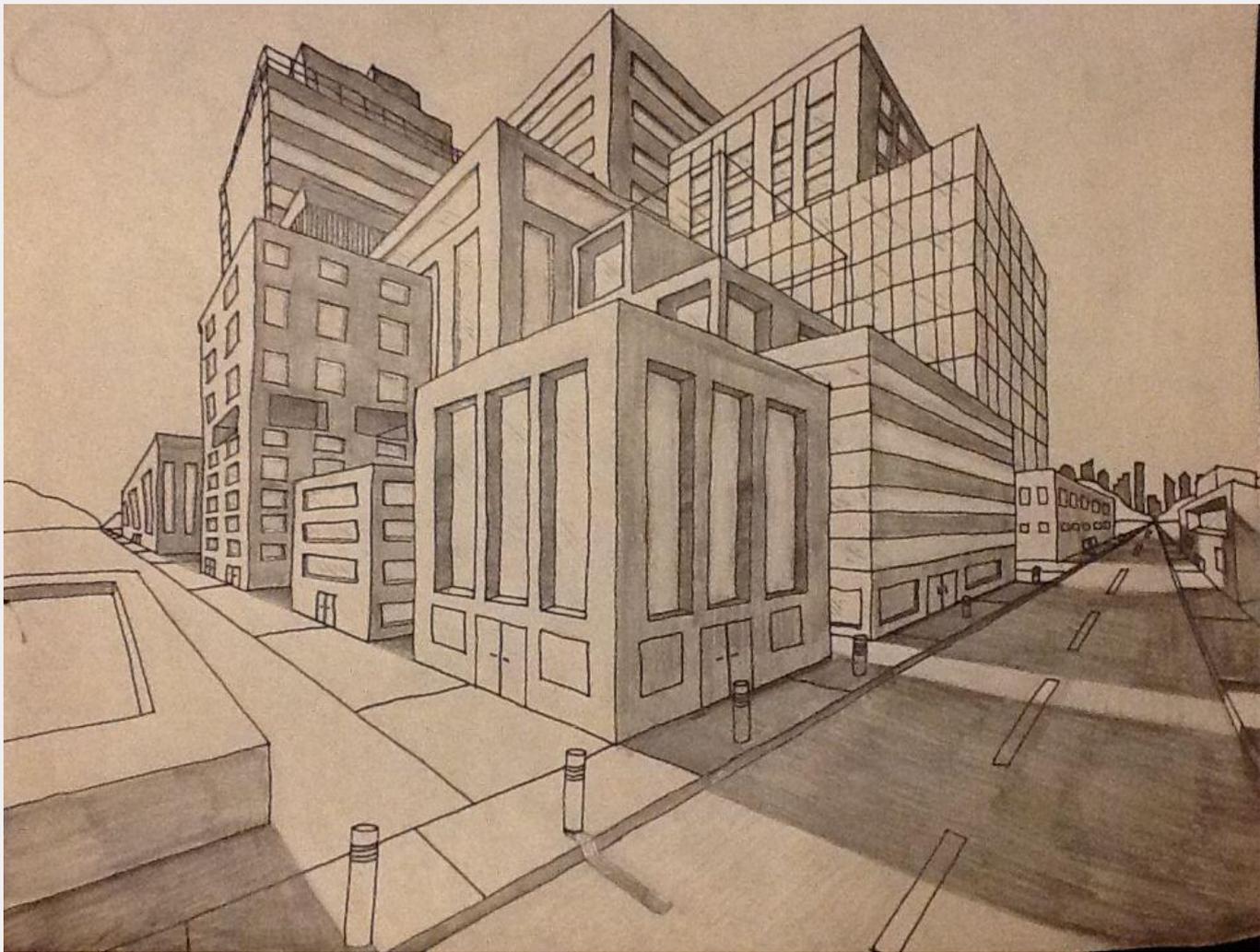


How many
dimensions
does a screen
have?



This
is 2D





3D SPACE

DIMENSIONS

0d



DIMENSIONS

0d



Point

DIMENSIONS



1d



DIMENSIONS



1d



Line

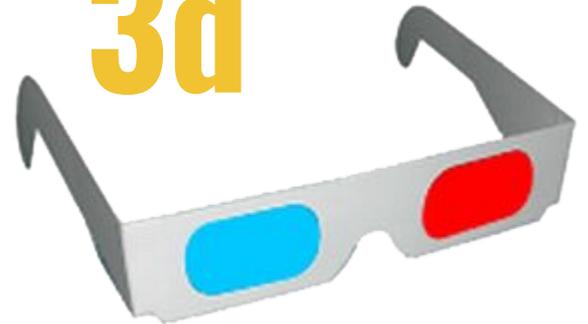
What does the
letter 'd'
represent?

0d

1d

2d

3d



Dimensions



Dimensions

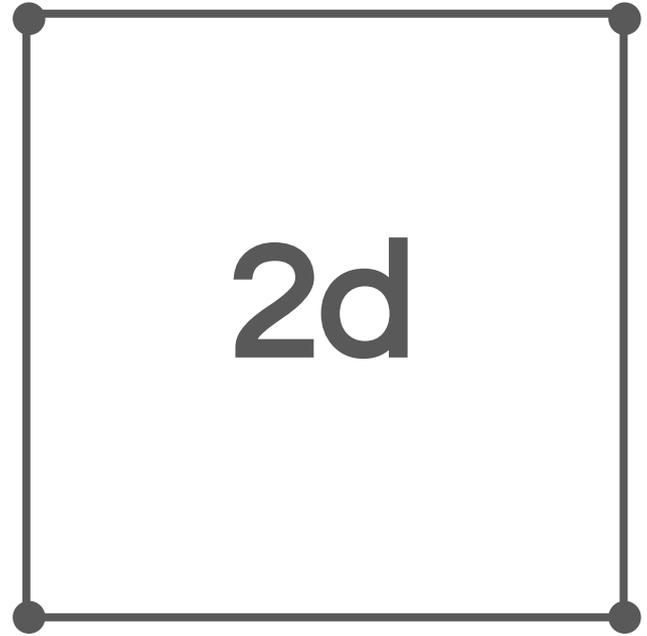
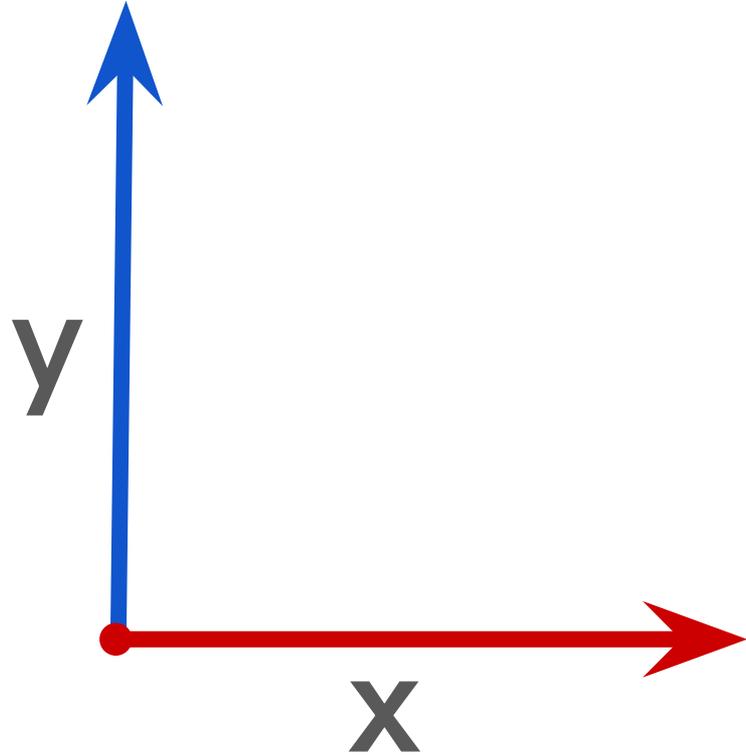
They have names



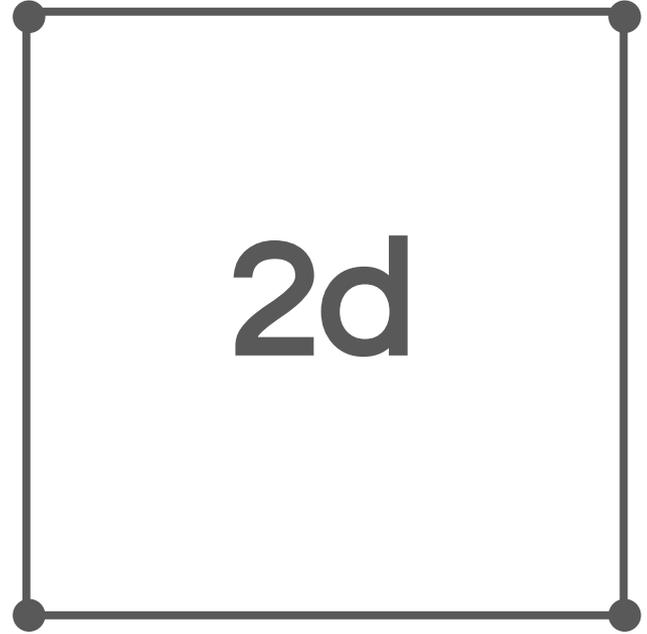
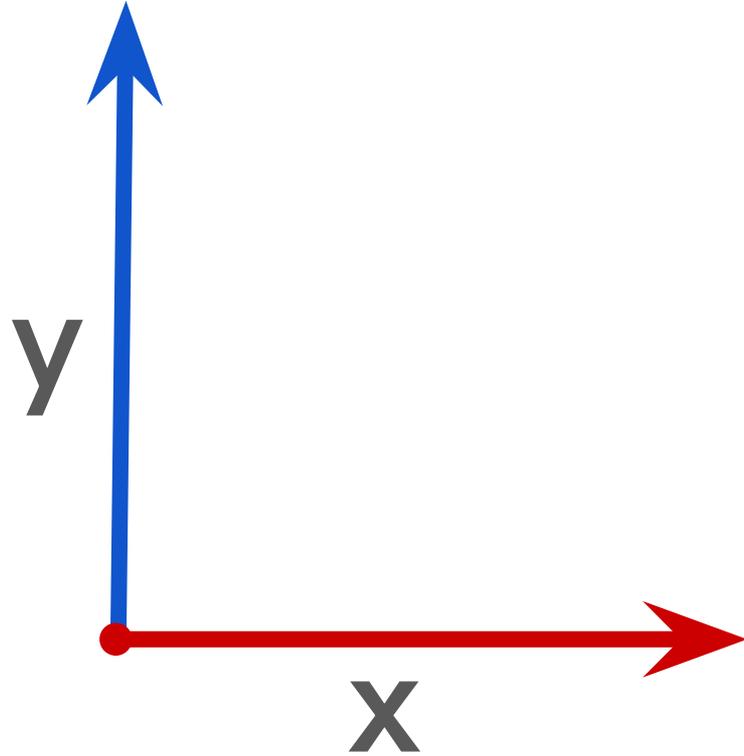
But they're not
parallel



DIMENSIONS

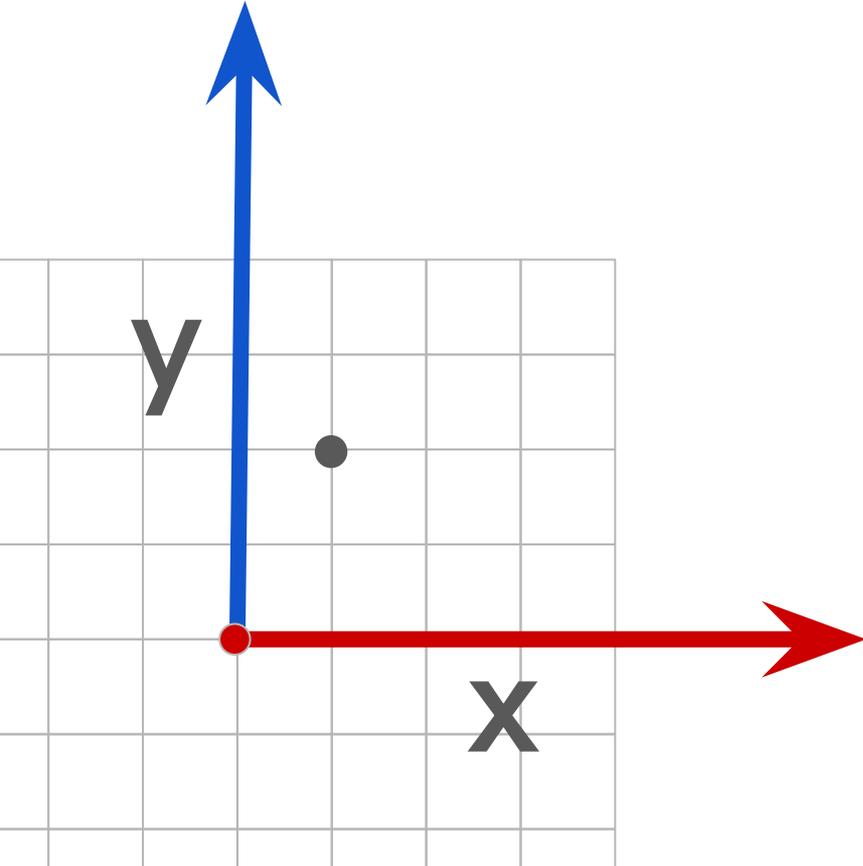


DIMENSIONS



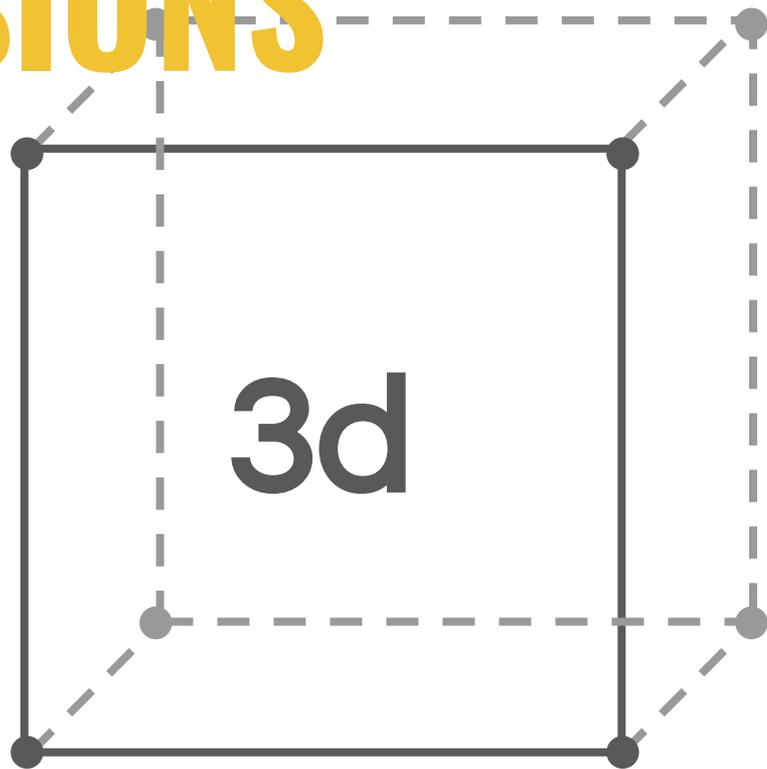
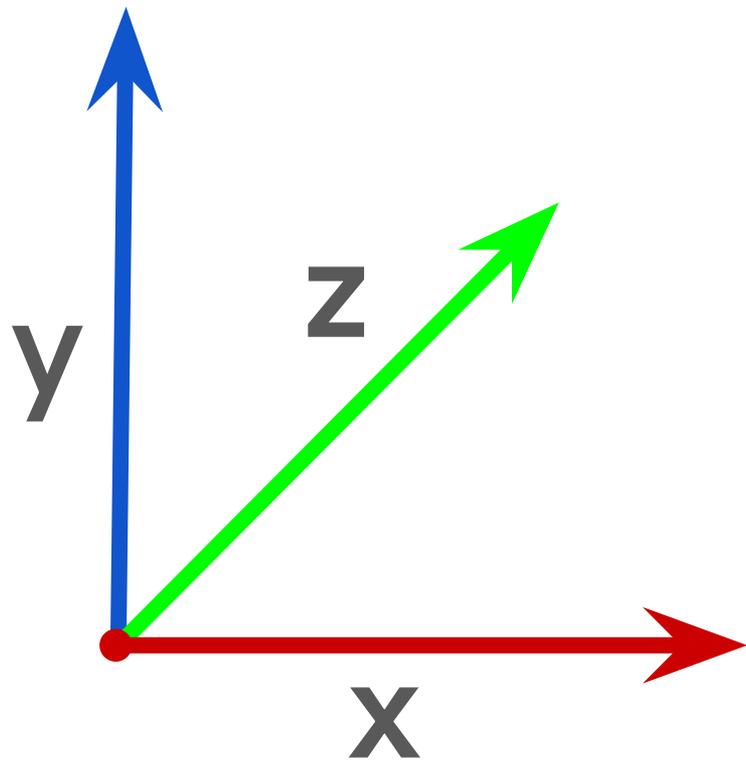
Plane

COORDINATES

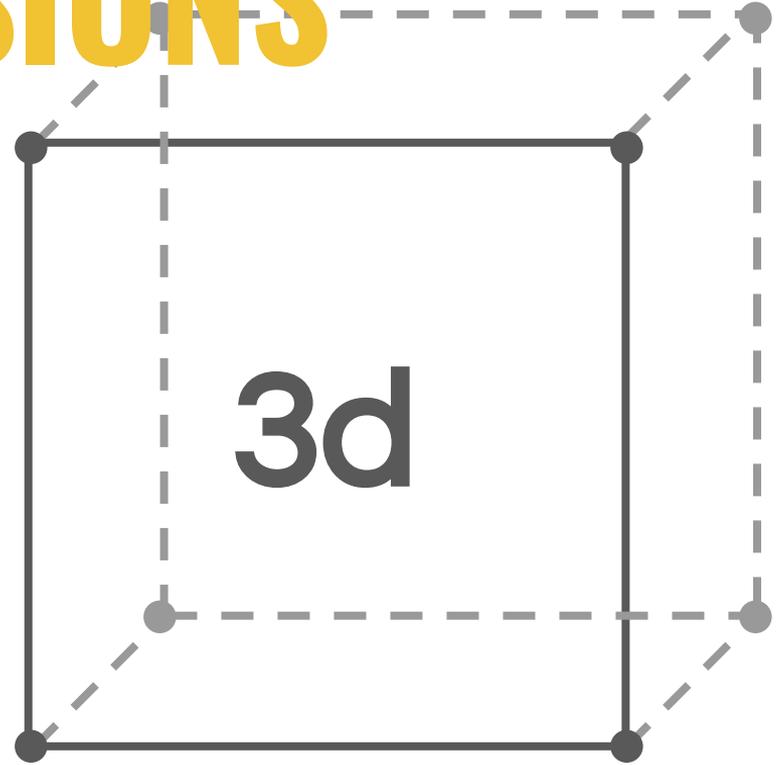
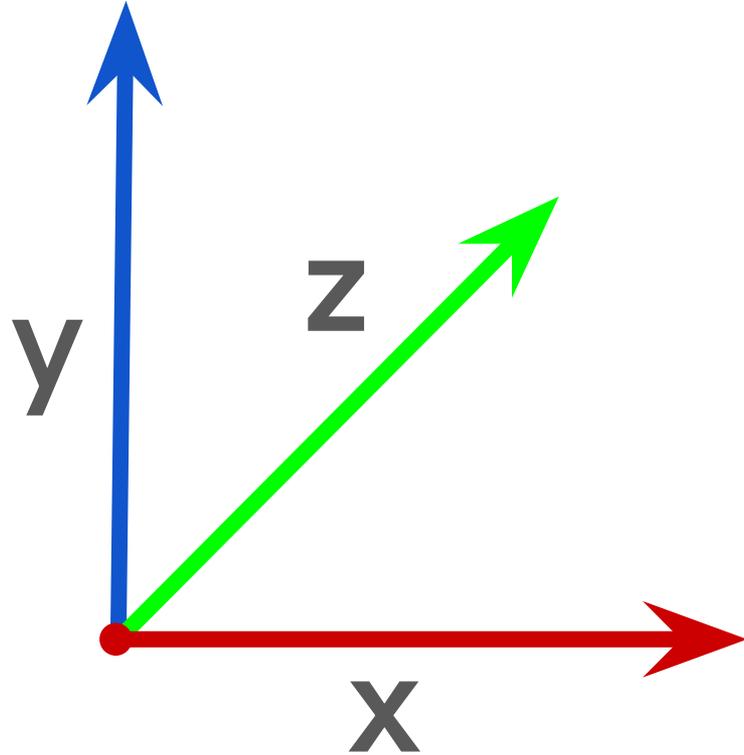


(x, y)
 $(1, 2)$

DIMENSIONS

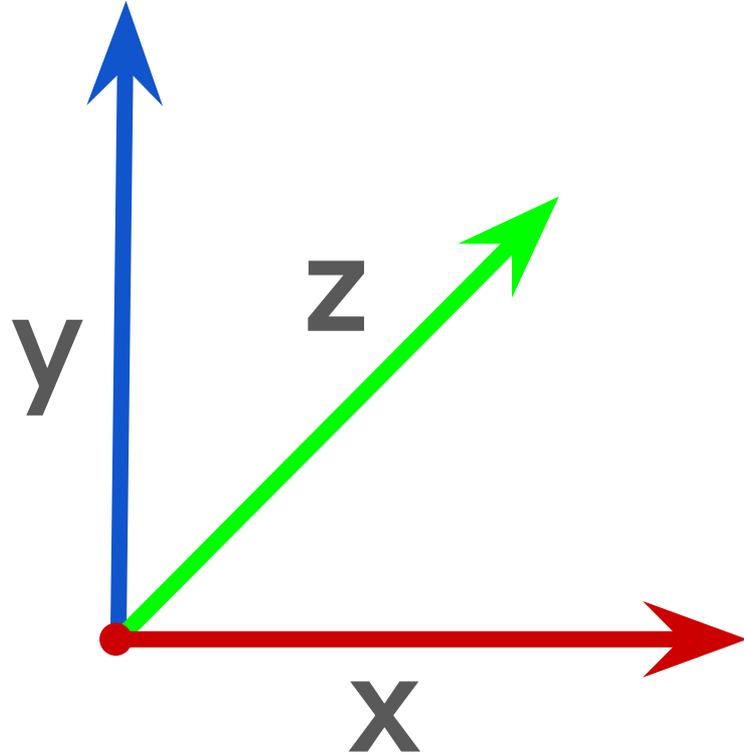


DIMENSIONS



Space

COORDINATES



(x, y, z)
 $(1, 1, 2)$



EXERCISE

Define a plane

Define a space

What do we need
for a plane?

0d

1d

2d

3d

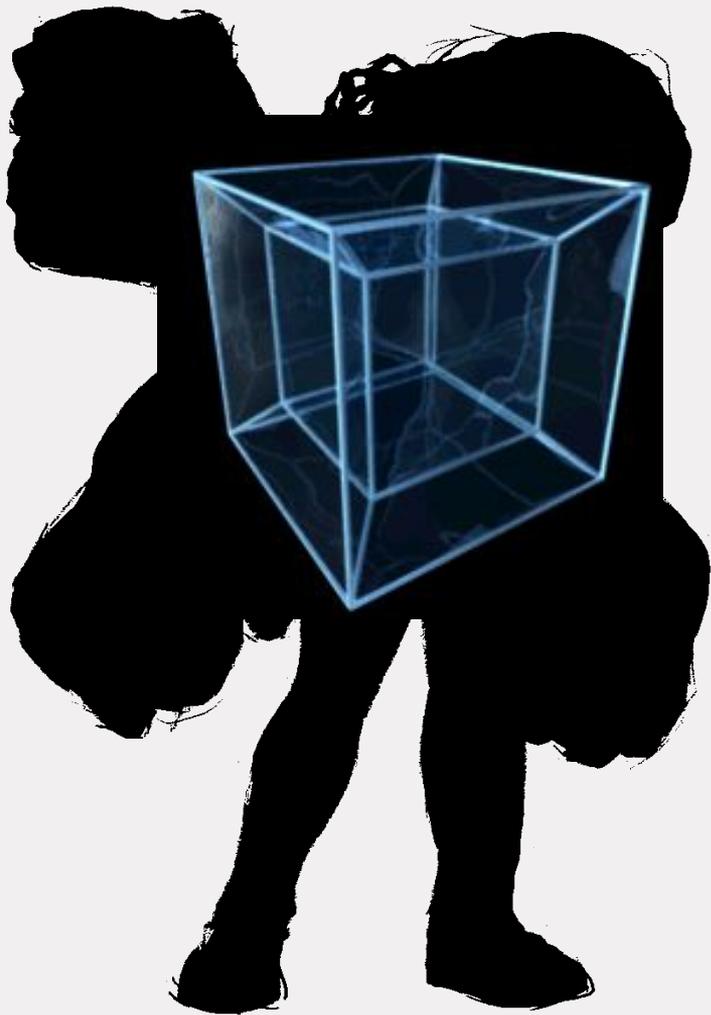
What do we need
for a space?

0d

1d

2d

3d



**For 4D Space, go see
A Wrinkle In Time**

NEXT UP

Vectors

