

U The Ubiquitous  
Isosceles Triangle B

# Tasks for learners:

- Practising a skill/Developing rhythms
- Using the skill to work on aspects of mathematical generality
- NOT just to practise the finished product
- Easily extended
- Deep progress

# Our view of geometry :

- the circle
- the triangle

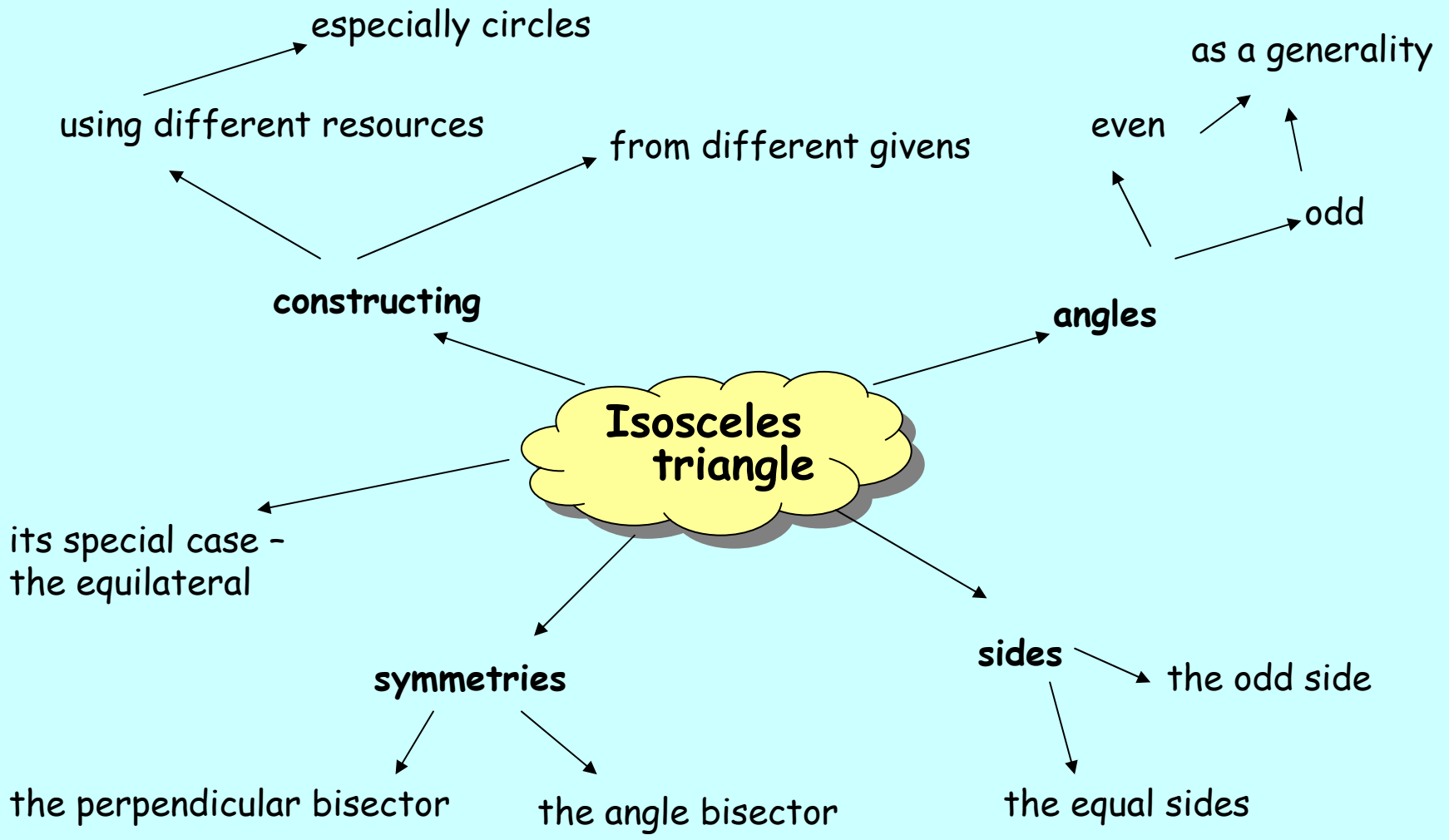
There are two types  
of triangle :

- isosceles
- non-isosceles

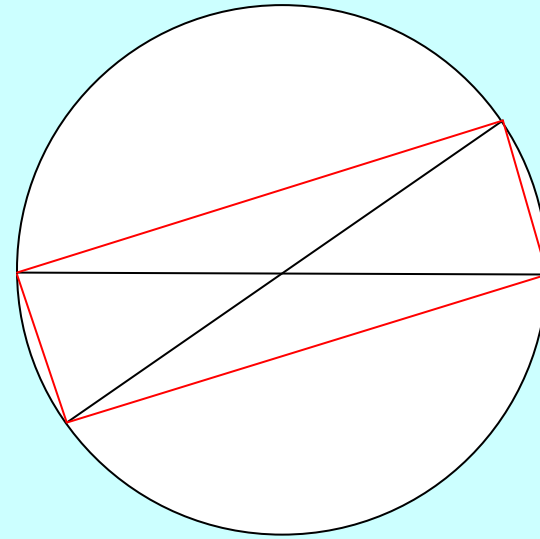
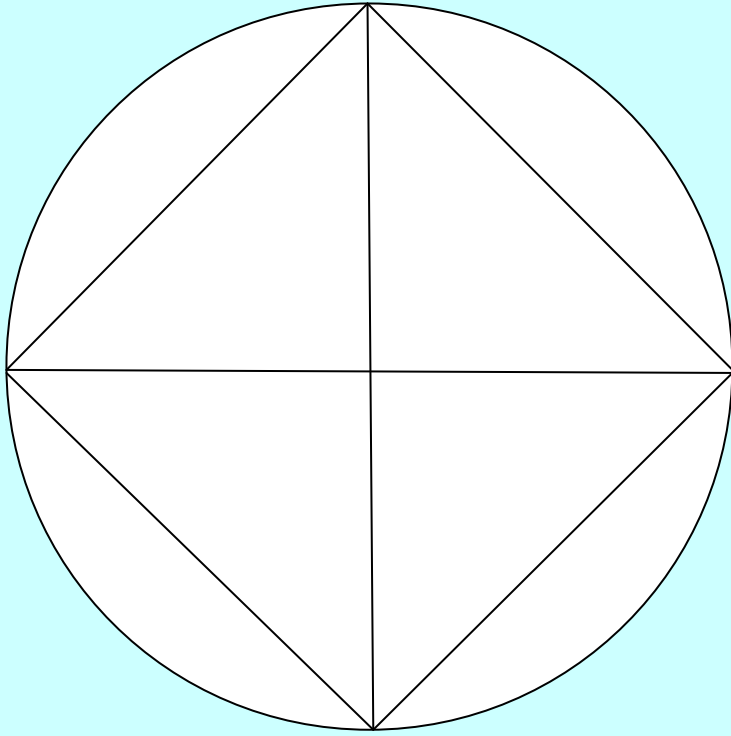
# Deep progress

- come to know the isosceles triangle ...
- in all its glory

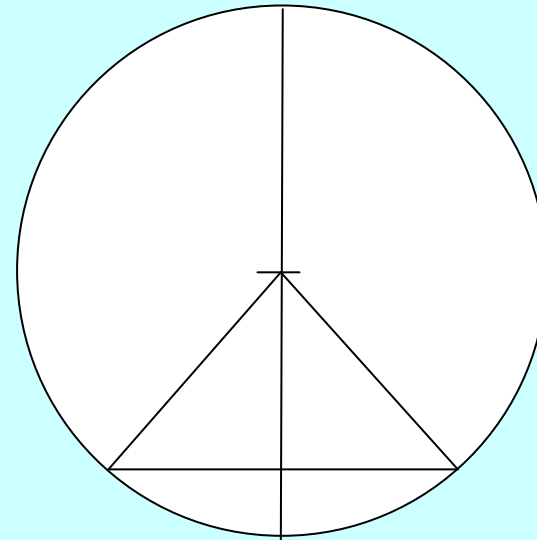
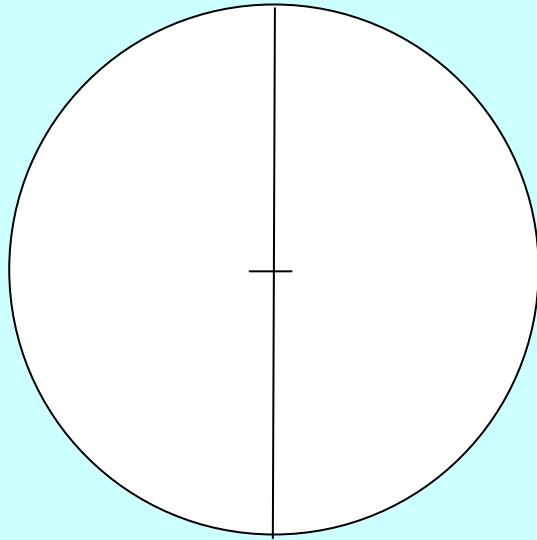
which means ...



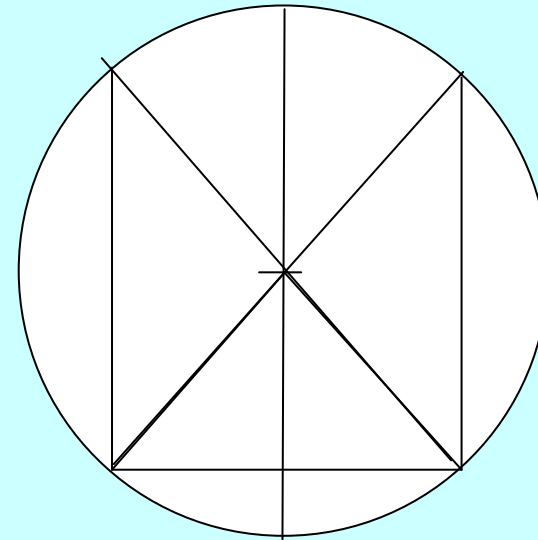
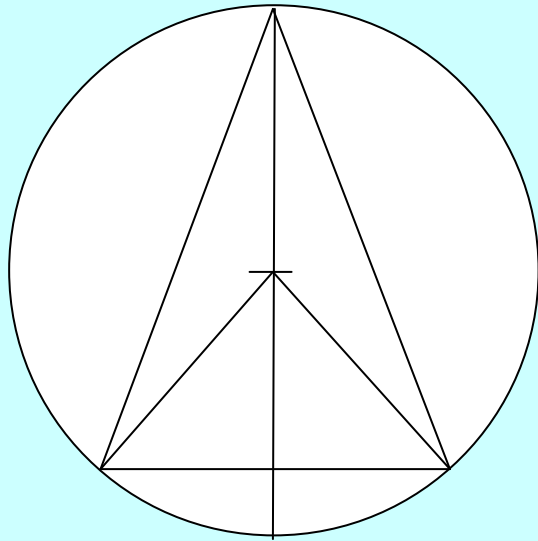
Time for you to work



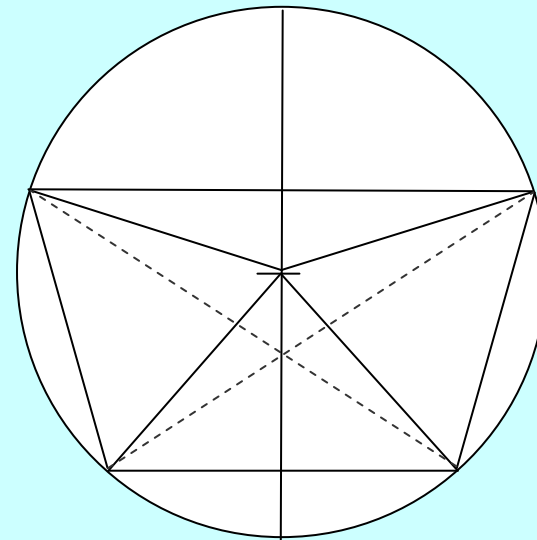
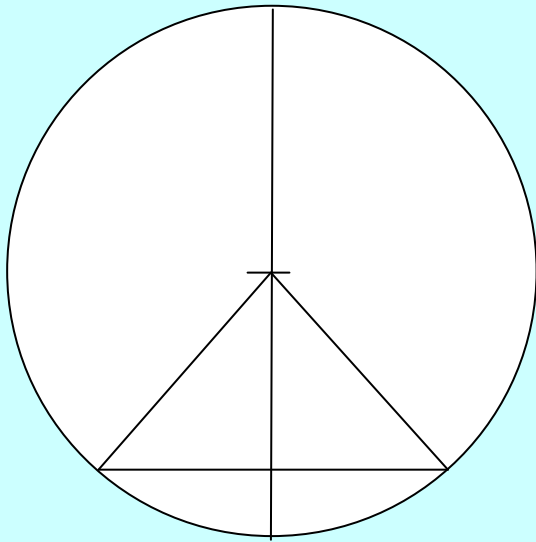
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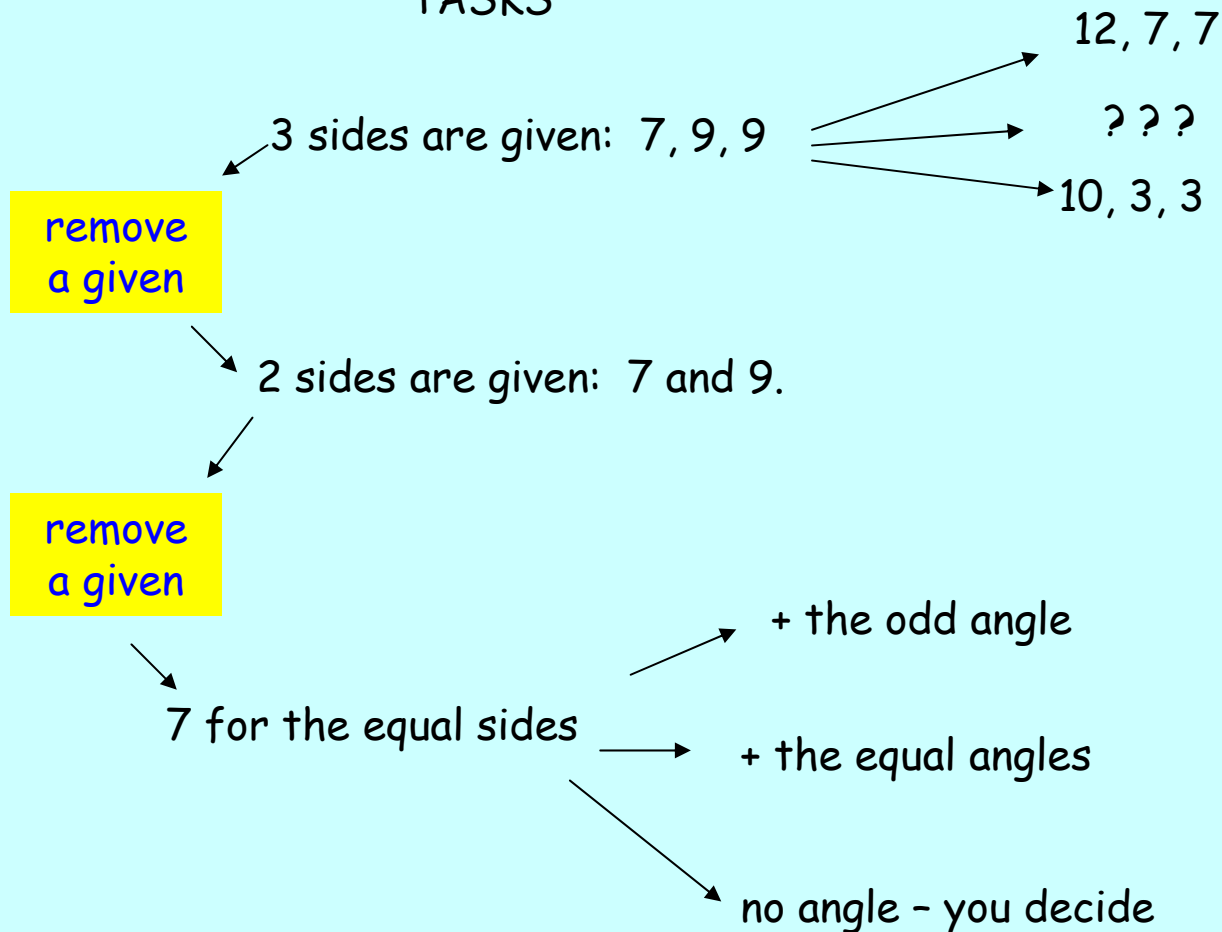


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# Constructing isosceles triangles

## TASKS



## Working on maths

Gathering data about the other things you notice - such as when is the odd angle acute, obtuse, impossible

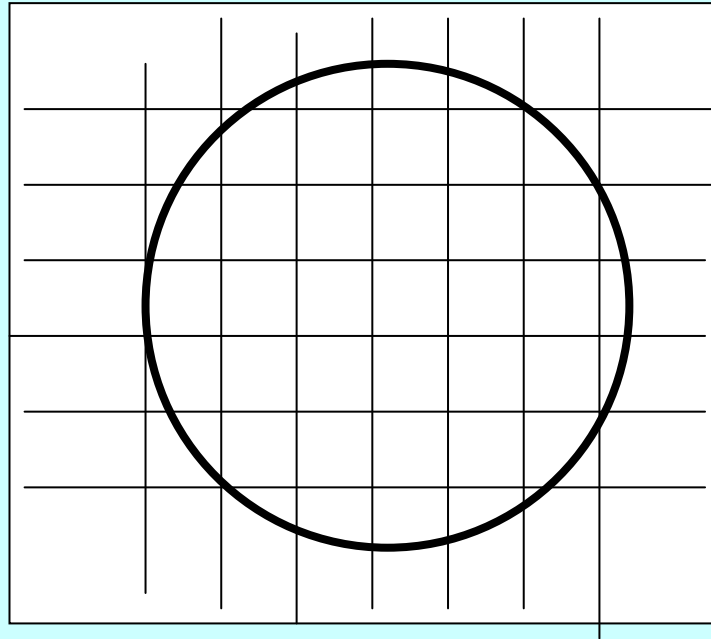
How are the angles related?

As the odd side changes what happens to the odd angle?

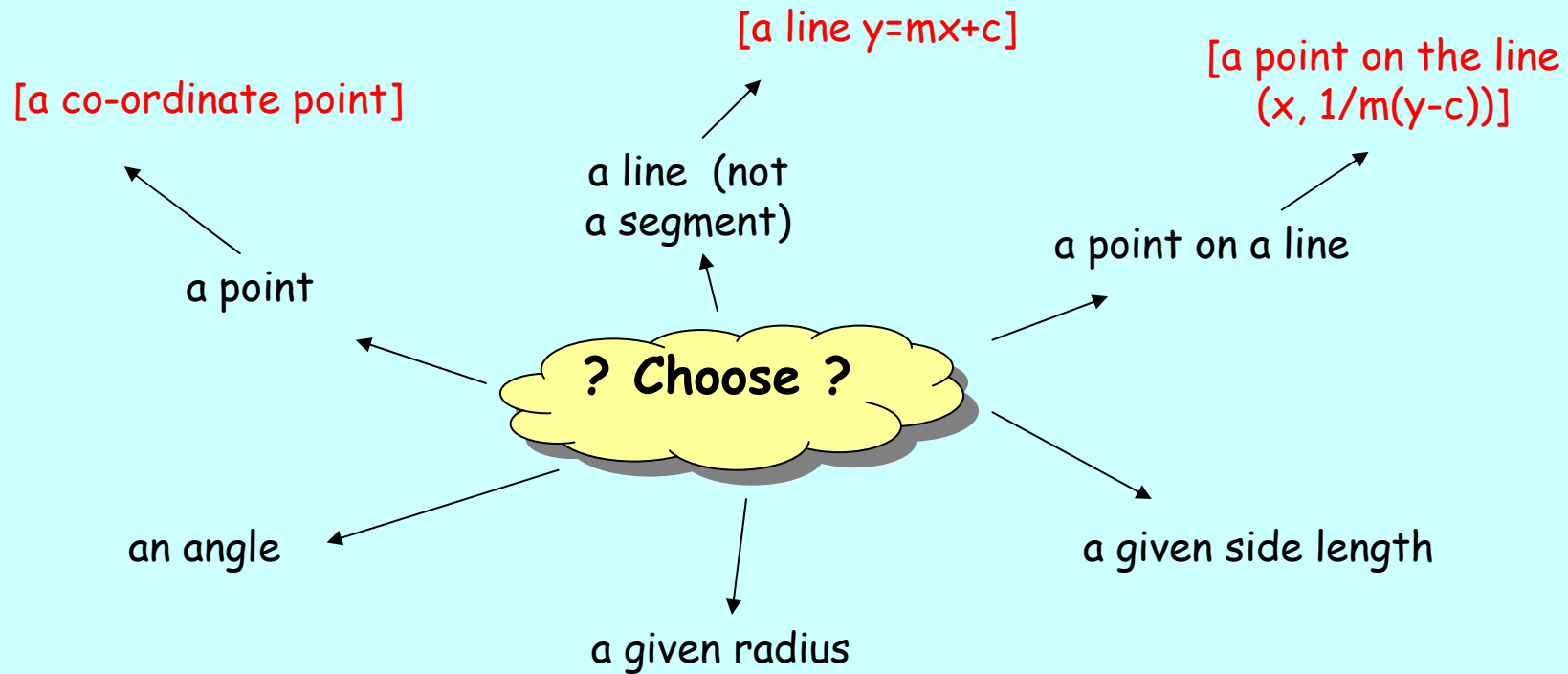
# Constructing with GSP

...consequences of circles not arcs ...

# Acetates



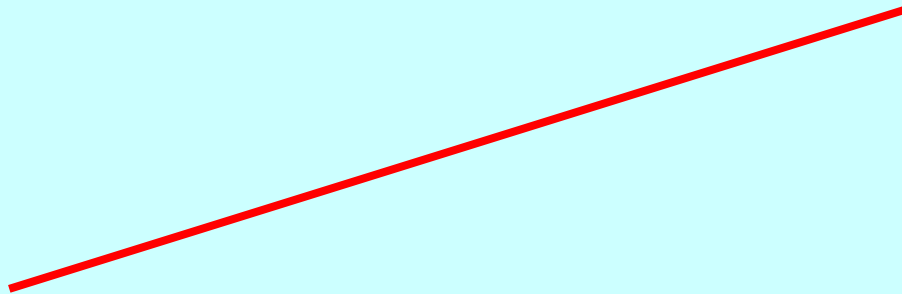
# Change the givens



point, line, point on line

point and radius

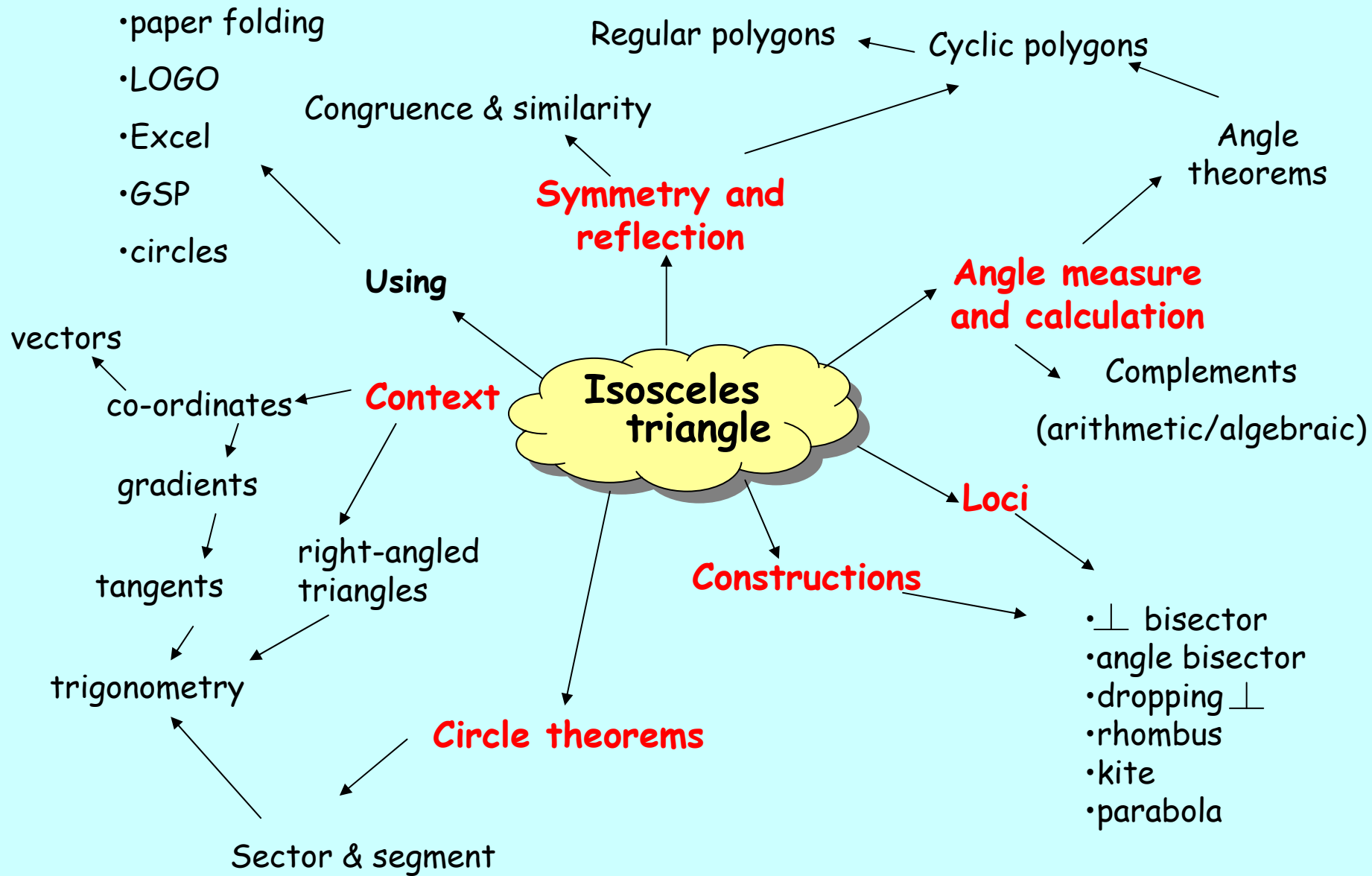
Suppose you know how to construct an  
isosceles triangle,  
in the language of that construction,  
describe how to perpendicularly bisect a  
line segment



and then an angle bisector

and then drop a perpendicular  
from a point to a line

So, where is the  
isosceles triangle in  
the shape and space  
curriculum?



OK, so not area  
and volume!!!

On a circle draw two radii. Join the chord

remove  
a given

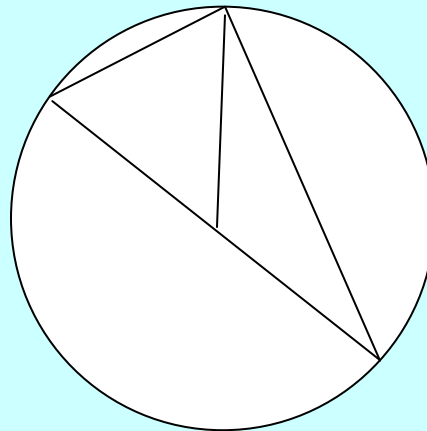
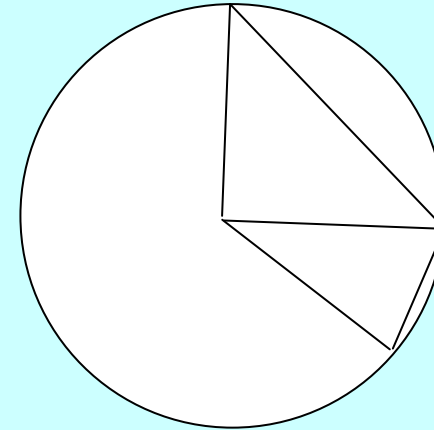
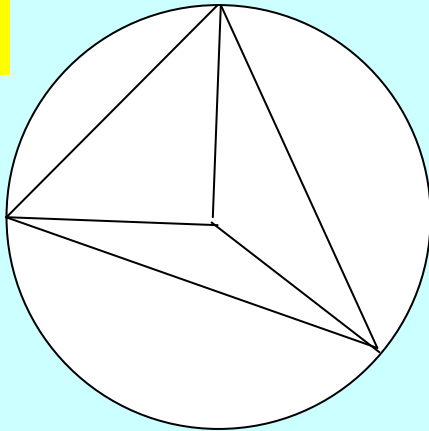
Draw one radius, now complete the isosceles triangle

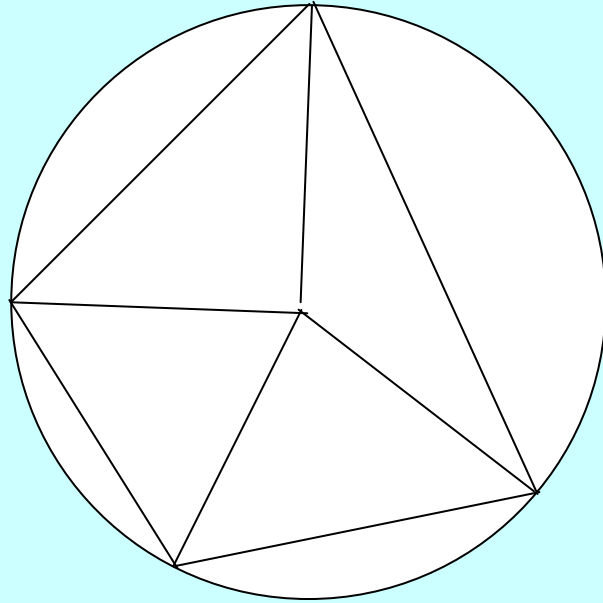
add a  
given

Draw one radius, follow my angle rule, now complete the isosceles triangle

On a circle draw two radii. Join the chord

add a  
given

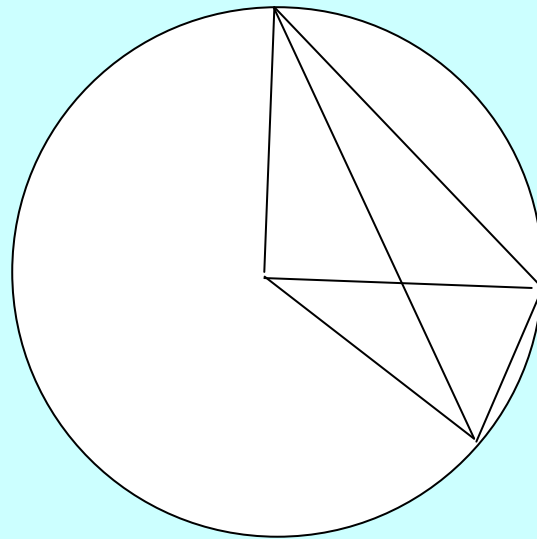




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.... and then of course we  
have something about area

..... area of a circle and an  
approximation for pi



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.... and then of course  
if we had time, we  
could talk about time.