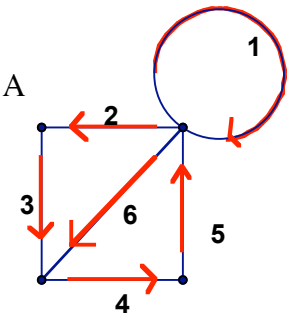
Euler circuit and path worksheet:

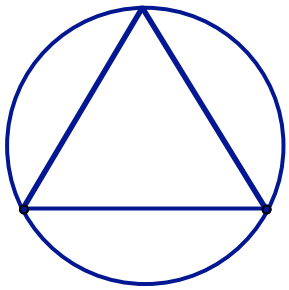
**Part 1:** For each of these vertex-edge graphs, try to trace it (without lifting your pen from the paper, and without tracing any edge twice). If you succeed, number the edges in the order you used them (puting on arrows is optional), and circle whether you found an Euler circuit or an Euler path. The first one is done for you

A



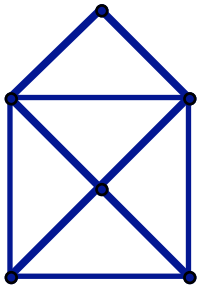

a. Euler circuit
(b.) Euler path
c. Not traceable

B



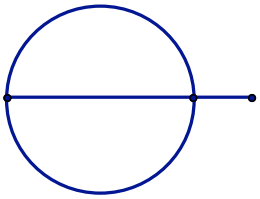
a. Euler circuit
b. Euler path
c. Not traceable

C



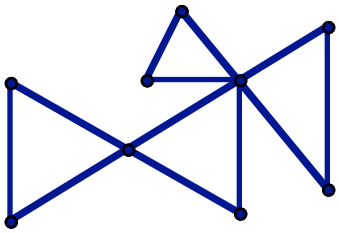
a. Euler circuit
b. Euler path
c. Not traceable

D



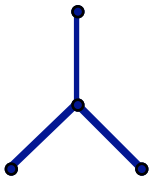
a. Euler circuit
b. Euler path
c. Not traceable

E



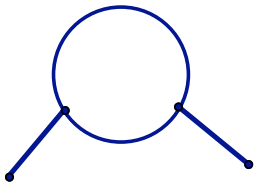
a. Euler circuit
b. Euler path
c. Not traceable

F



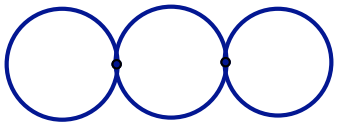
a. Euler circuit
b. Euler path
c. Not traceable

G



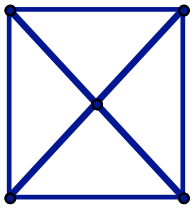
a. Euler circuit
b. Euler path
c. Not traceable

H



a. Euler circuit
b. Euler path
c. Not traceable

I



a. Euler circuit
b. Euler path
c. Not traceable

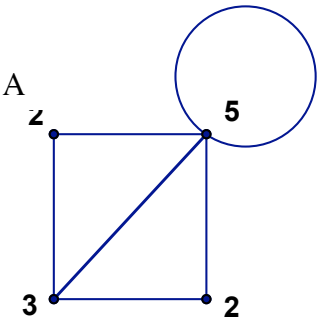
degree

**Part 2:** For each of these, write the ~~valence number~~ next to each vertex, then tell how many vertices are odd (odd ~~valence #~~), and how many are even (the ~~valence #~~ is even)

degree

degree

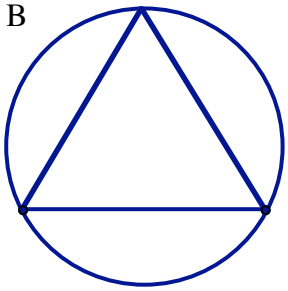
A




# odd V:__2___

# even V:__2__

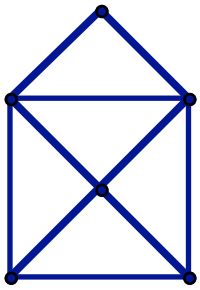
B



# odd V:_____

# even V:_____

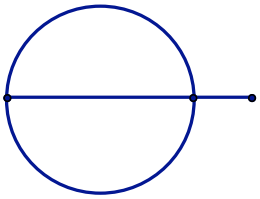
C



# odd V:_____

# even V:_____

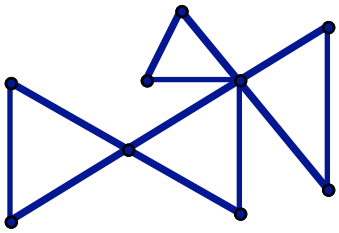
D



# odd V:_____

# even V:_____

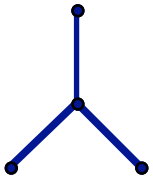
E



# odd V:_____

# even V:_____

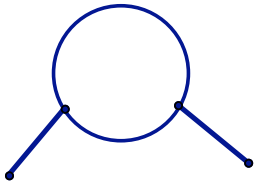
F



# odd V:_____

# even V:_____

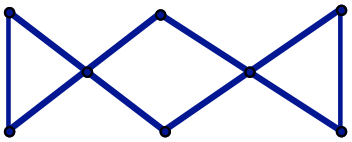
G



# odd V:_____

# even V:_____

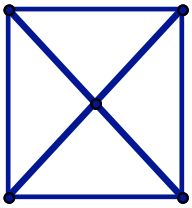
H



# odd V:_____

# even V:_____

I



# odd V:_____

# even V:_____

**Put it together:**

3 of the graphs have Euler circuits. How many odd vertices do they have?_____

3 of the graphs have Euler paths. How many odd vertices do they have?_____

3 of the graphs are not traceable. How many odd vertices do they have?_____

**Read the rest of the explanation on the web, and then do the quiz practice.**