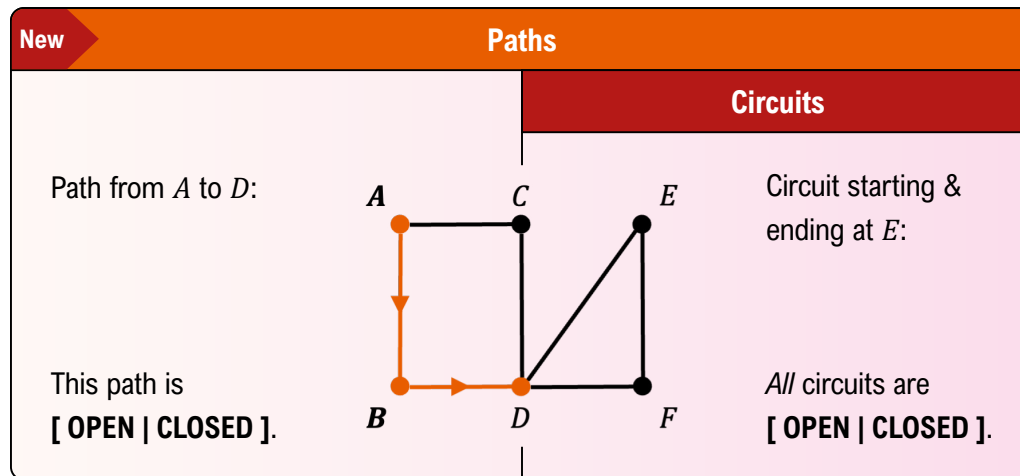


TOPIC: PATHS & CIRCUITS

Paths & Circuits

◆ A **path** (sometimes **trail**) is a sequence of _____ vertices & the unique edges connecting them.

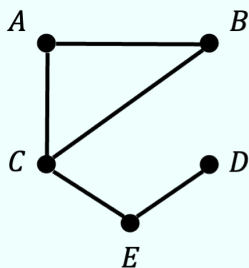
► A **circuit** is a *closed* path, which means it starts & ends at the _____ vertex.



◆ The **length** of a path is the *number* of _____ along the path.

EXAMPLE

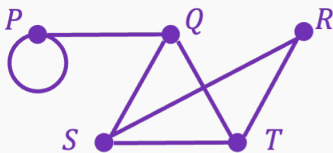
Find a path from B to E & determine its length. Note: Multiple paths are possible.



TOPIC: PATHS & CIRCUITS

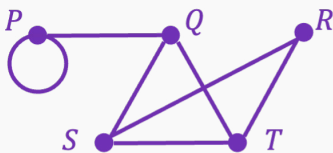
PRACTICE

Using the graph below, determine which edges are NOT part of the path $P - Q - S - T - R$.



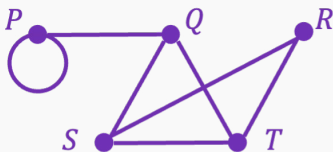
PRACTICE

What is the length of the path $P - Q - S - T - R$?



PRACTICE

Referring to the path below, determine if each sequence of vertices is a path, circuit, or neither.



(A) P, P, Q, T, R

[PATH | CIRCUIT | NEITHER]

(B) P, Q, R, S, T

[PATH | CIRCUIT | NEITHER]

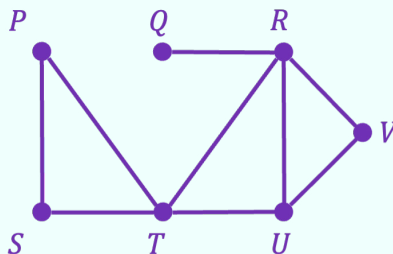
(C) Q, T, R, S, Q

[PATH | CIRCUIT | NEITHER]

TOPIC: PATHS & CIRCUITS

EXAMPLE

Use the graph shown to find **(A)** a path from S to V and **(B)** a circuit starting & ending at R , using at least 4 vertices.



EXAMPLE

For each graph shown, draw an *equivalent* graph, meaning it has the same vertices & same edges.

(A) Use cities (*vertices*) to describe a path from Barcelona to Amsterdam.

(B) How many trains would you ride along your path (*path length*)?

(C) Use cities (*vertices*) to describe a circuit starting & ending in Milan.

(D) How many trains would you ride along your circuit (*path length*)?

