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1. $V - E + R = 2$

$V \rightarrow$ vertices

$$E = \frac{3(20)}{2}$$

$$20 - 30 + R = 2$$

$E \rightarrow$ edges

$$E = \frac{60}{2}$$

$$-10 + R = 2$$

$R \rightarrow$ regions

$$E = 30 //$$

$$R = 2 + 10$$

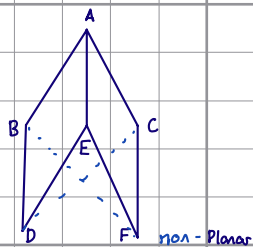
$$E = \frac{3V}{2}$$

$$V - 30 + R = 2$$

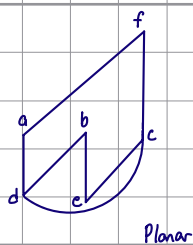
$$R = 12 //$$

2.

A.



B.



C.

not planar, f has too many edges

