

5. Graph has  $8 \cdot 3 + 116 = 24 + 116 = 140$  edges

Sum of degree of vertices add up to  $2e$

$2e = 140 \cdot 2$  since all vertices have degree of four

$$2e = 4 \cdot V$$

$$140 \cdot 2 = 4V$$

$$V = \frac{280}{4} = 70$$

$$V - e + f = 2$$

$$f = 2 + e - V$$

$$f = 2 + 140 - 70$$

$$f = 72$$

~~Graph~~