

# Paralelismo e perpendicularismo

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1)

Tetraedro ABCD, para retas formarem um par, separa em dois grupos de 2.

$$C_4^2 = \frac{4 \cdot 3}{2} = 3$$

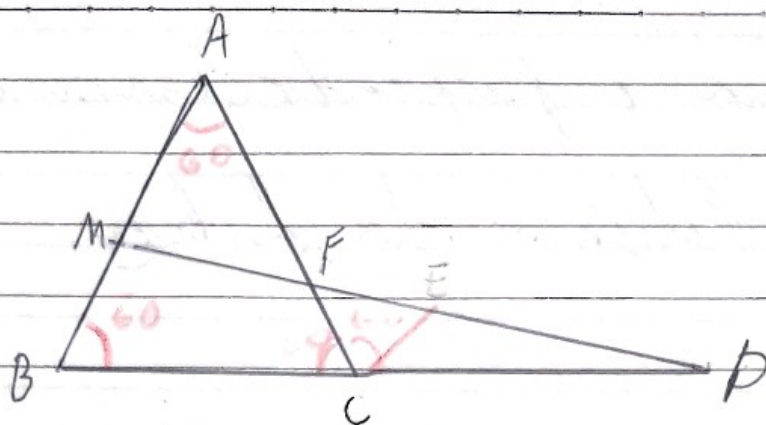
letra C

2)

Se  $r$  é paralela ao plano  $\alpha$ , significa que  $r$  não cruzará o plano  $\alpha$  (isto é,  $r$  não pertence ao plano  $\alpha$ ). Portanto, quaisquer retas pertencentes ao plano  $\alpha$  não poderão ser paralelas a  $r$ .

letra B

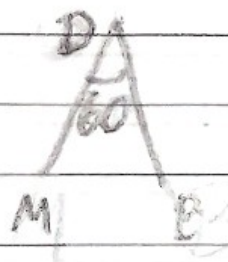
3)



$$x = 180^\circ - 60^\circ - 60^\circ$$

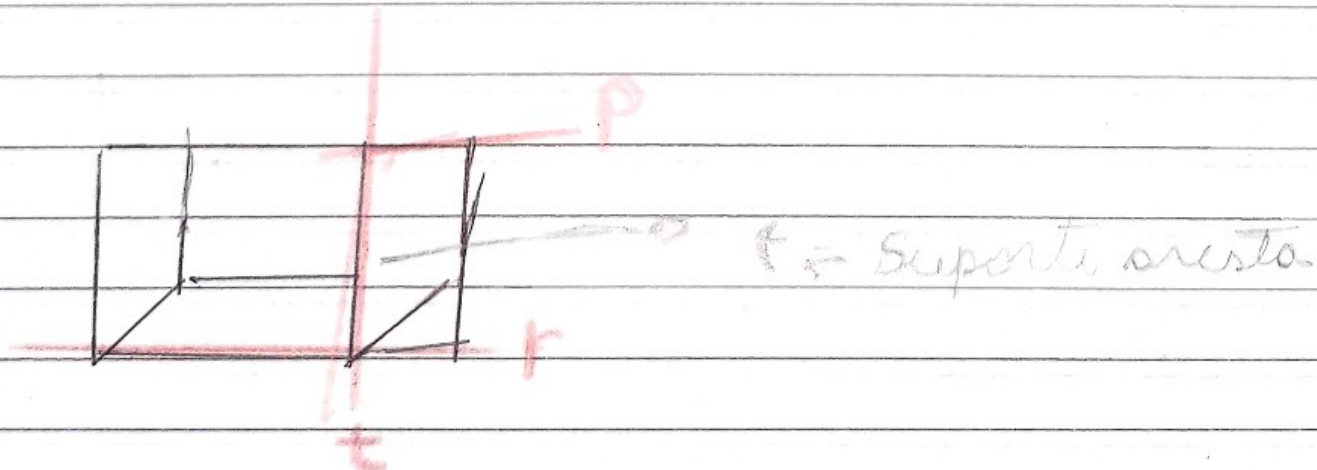
$$x = 60^\circ$$

Angulo D = 60



letra c

4)



letra c

letra c

5)

II, III

Poliedros

1)

Relação de Euler:

$$V + F = A + 2$$

$$8 + 6 = A + 2$$

$$14 = A + 2$$

$$A = 12$$

2)

F5 = Face pentagonal

$$2 \cdot A = 5 \cdot F_5$$

$$2A = 5 \cdot 12$$

$$2A = 60$$

$$A = 30$$

$$V + F = A + 2$$

$$V + 12 = 30 + 2$$

$$V + 12 = 32$$

$$V = 20$$



3)

$$V = 2$$

$$\frac{6 \cdot 4}{2} + \frac{8 \cdot 3}{2} = \frac{24}{2} + \frac{24}{2} = 12 + 12 = 24A$$

$$6 + 8 = 14 \text{ faces}$$

$$V + F = A + 2$$

$$V + 14 = 24 + 2$$

$$V = 12.$$

4)

$$S = 360(V - 2)$$

$$1800 = 360(V - 2)$$

$$360V - 720 = 1800$$

$$360V = 2520$$

$$V = \frac{2520}{360} = 7 \text{ vertices}$$

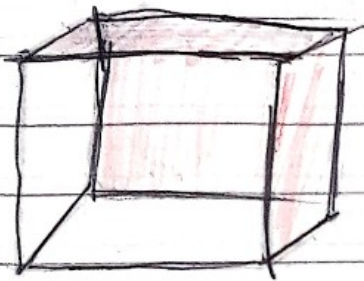
7 vertices = Hexagon

litra D

5)

- I - Arestas tem numero de lados iguais
- II - Todos vertices tem o mesmo numero de arestas
- III - Tem relação de Euler ( $V + F = A + 2$ )

6)



Hexaedro regular

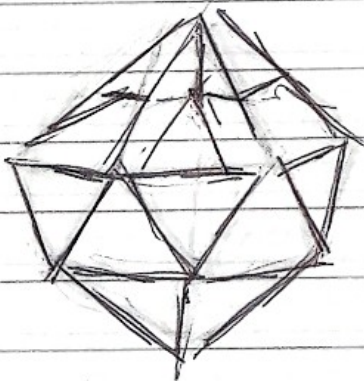
Faces = 6

Arestas = 12

Vertices = 8

Letra: A

7)



Vertices = 20

Arestas = 30

8)

NAME	TYPE FACE	N. FACE	A	V
Tetrahedro	triangular	4	6	4
Hexahedro	Quadrado	6	12	8
Octahedro	triangular	8	18	6
Dodecahedro	Pentagonal	12	30	20
Icosahedro	triangular	20	30	12
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