

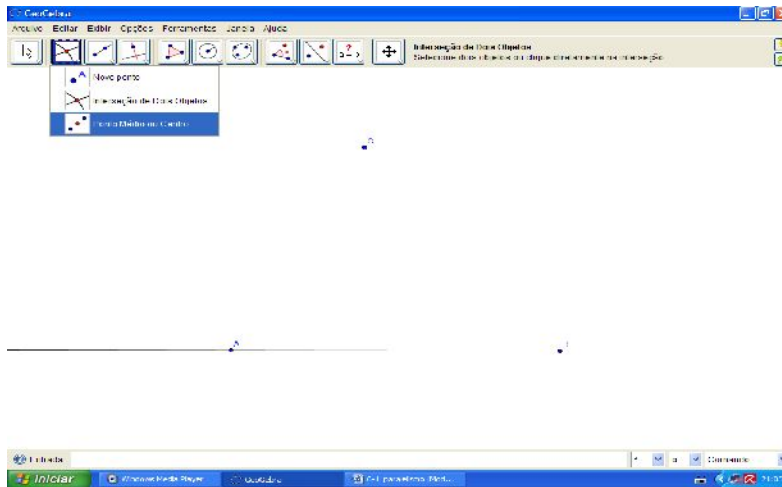
RETAS PARALELAS

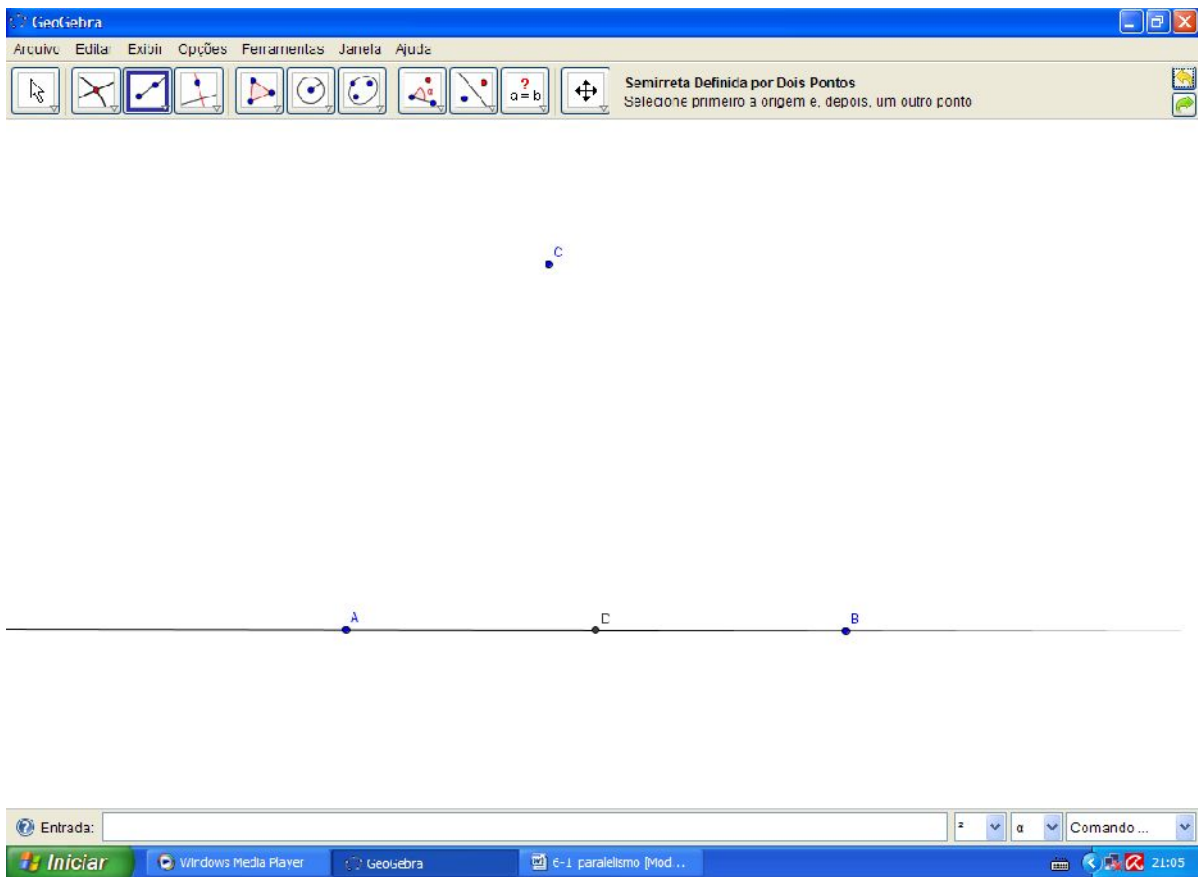
Por definição:

Duas retas são paralelas se não se interceptam, se não há pontos em comum.

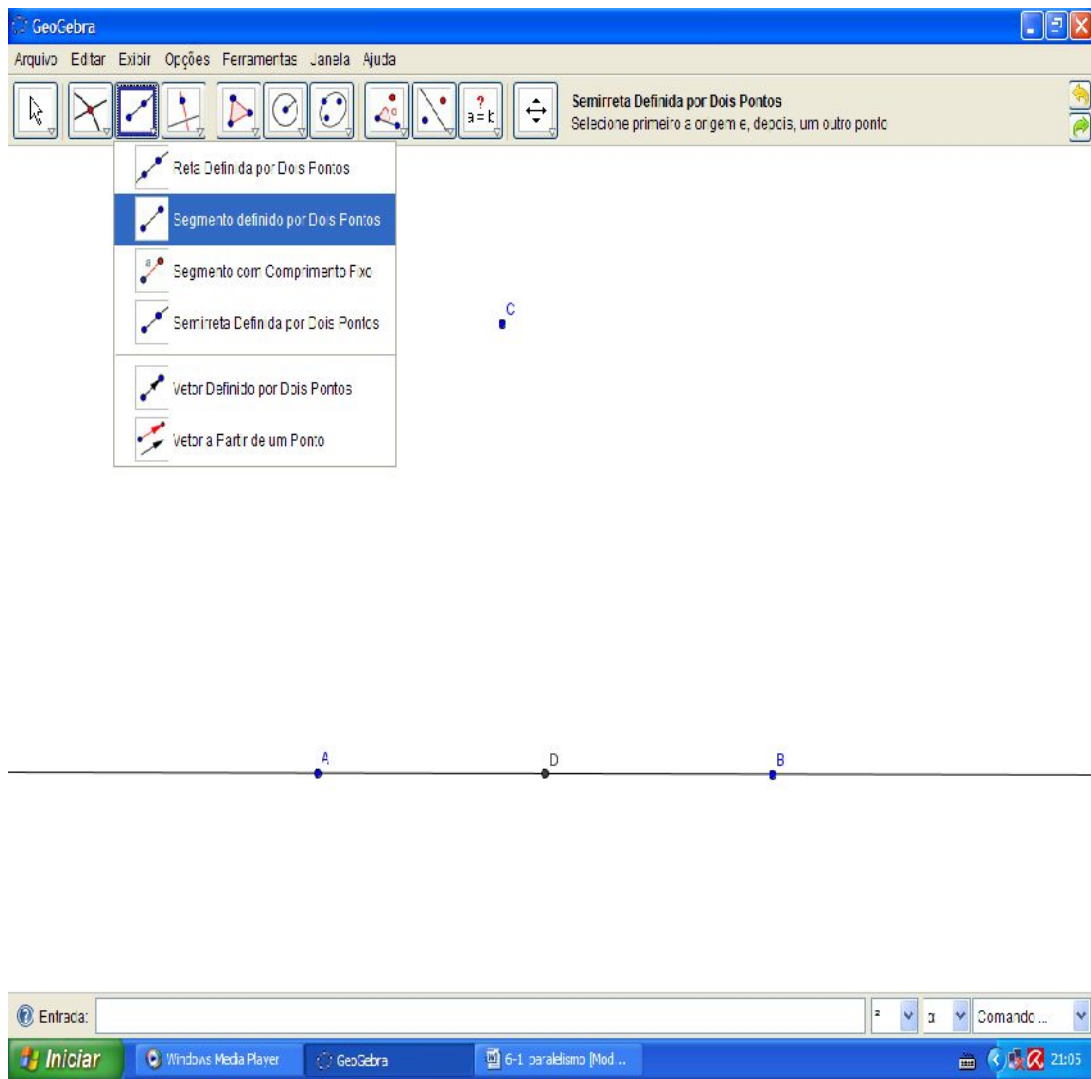
Desta forma, se existem uma reta 'r' e um ponto 'P' fora dela, então, por 'P' passa somente uma reta 'r'' paralela a 'r'.

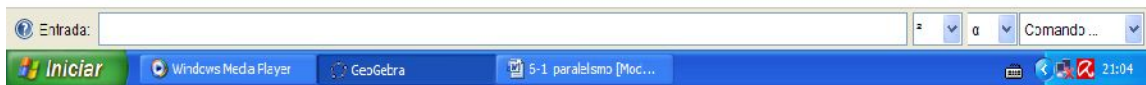
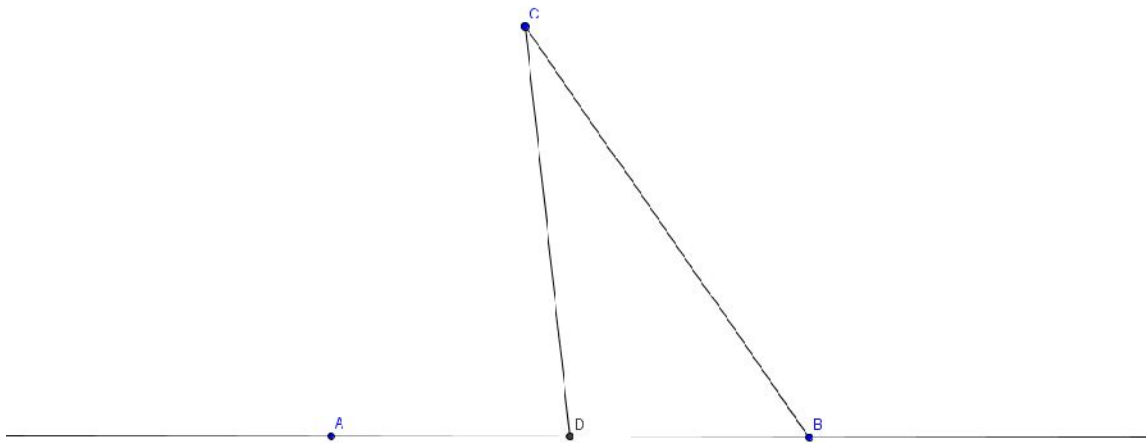
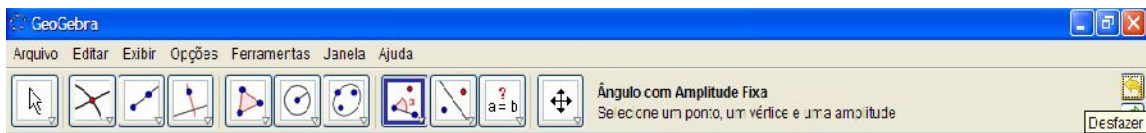
Observe abaixo: temos uma reta AB e um ponto C fora dela, encontre o ponto médio do segmento AB.

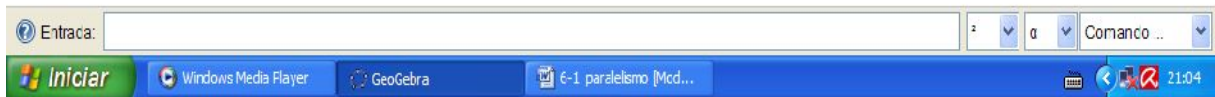
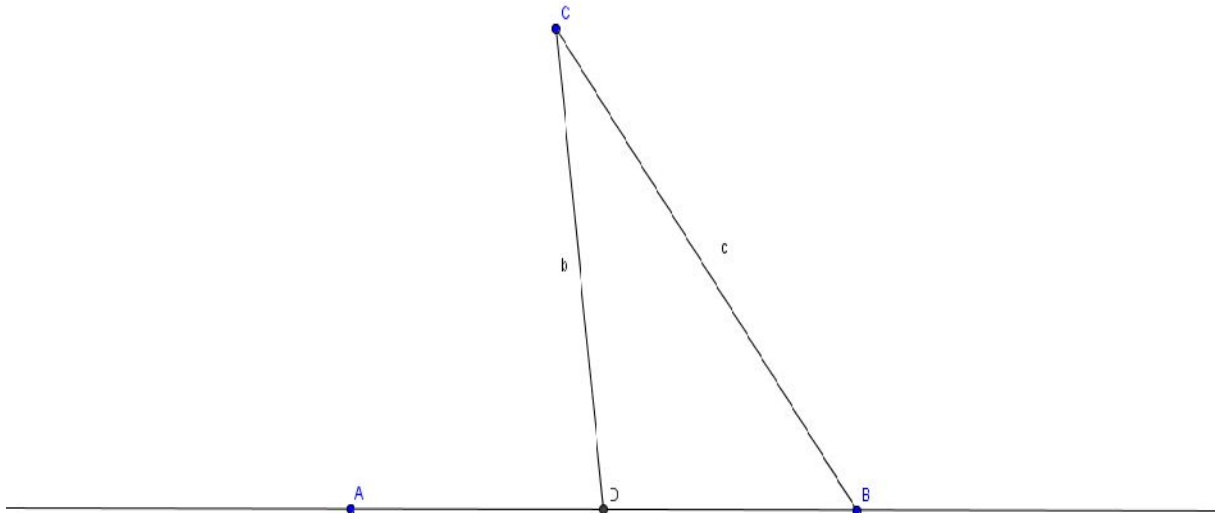
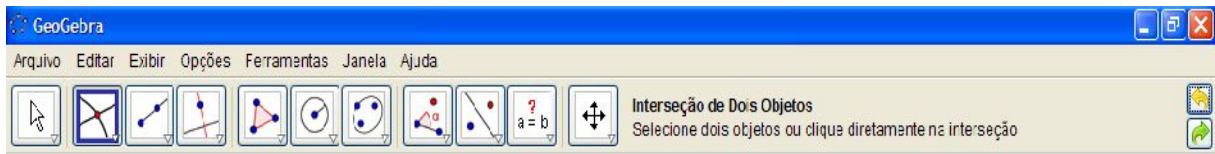




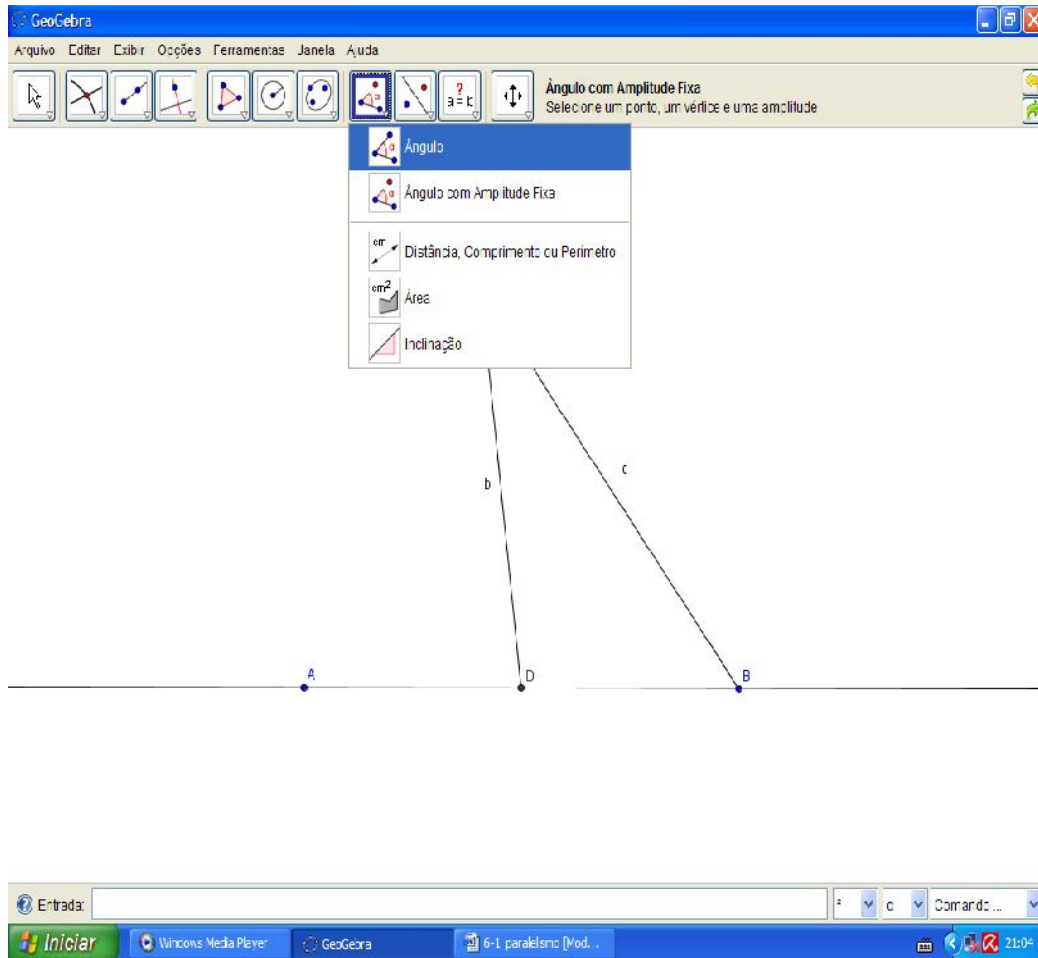
Com a ferramenta “segmento definido por dois pontos”, esboce os segmentos CD e CB.

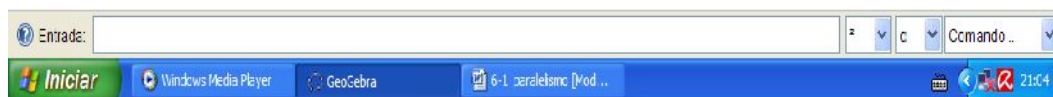
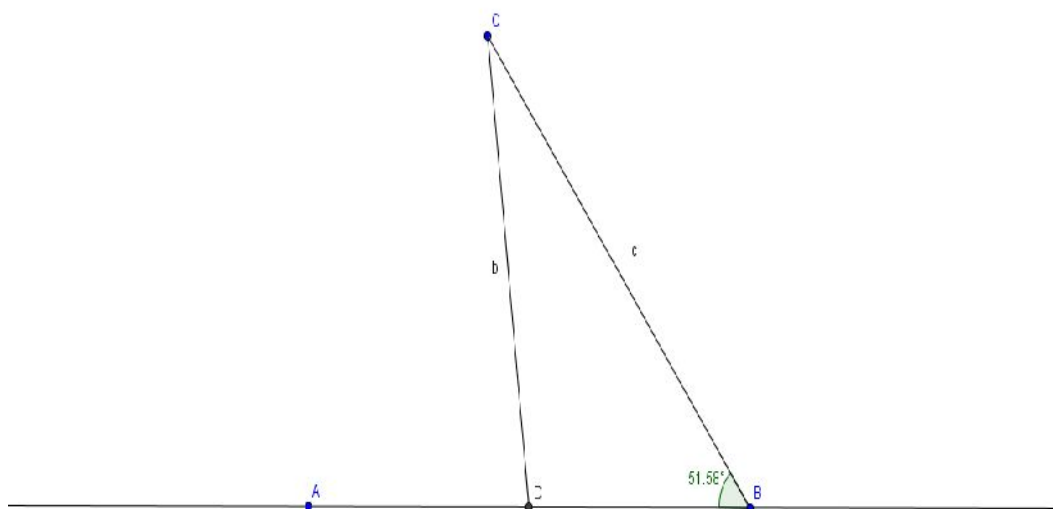
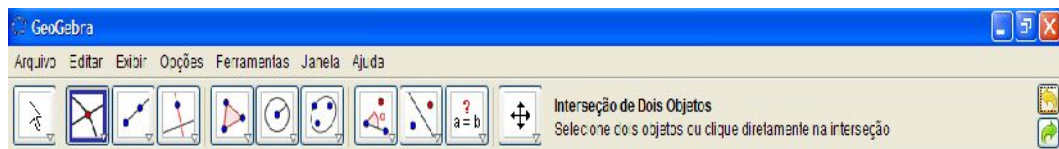




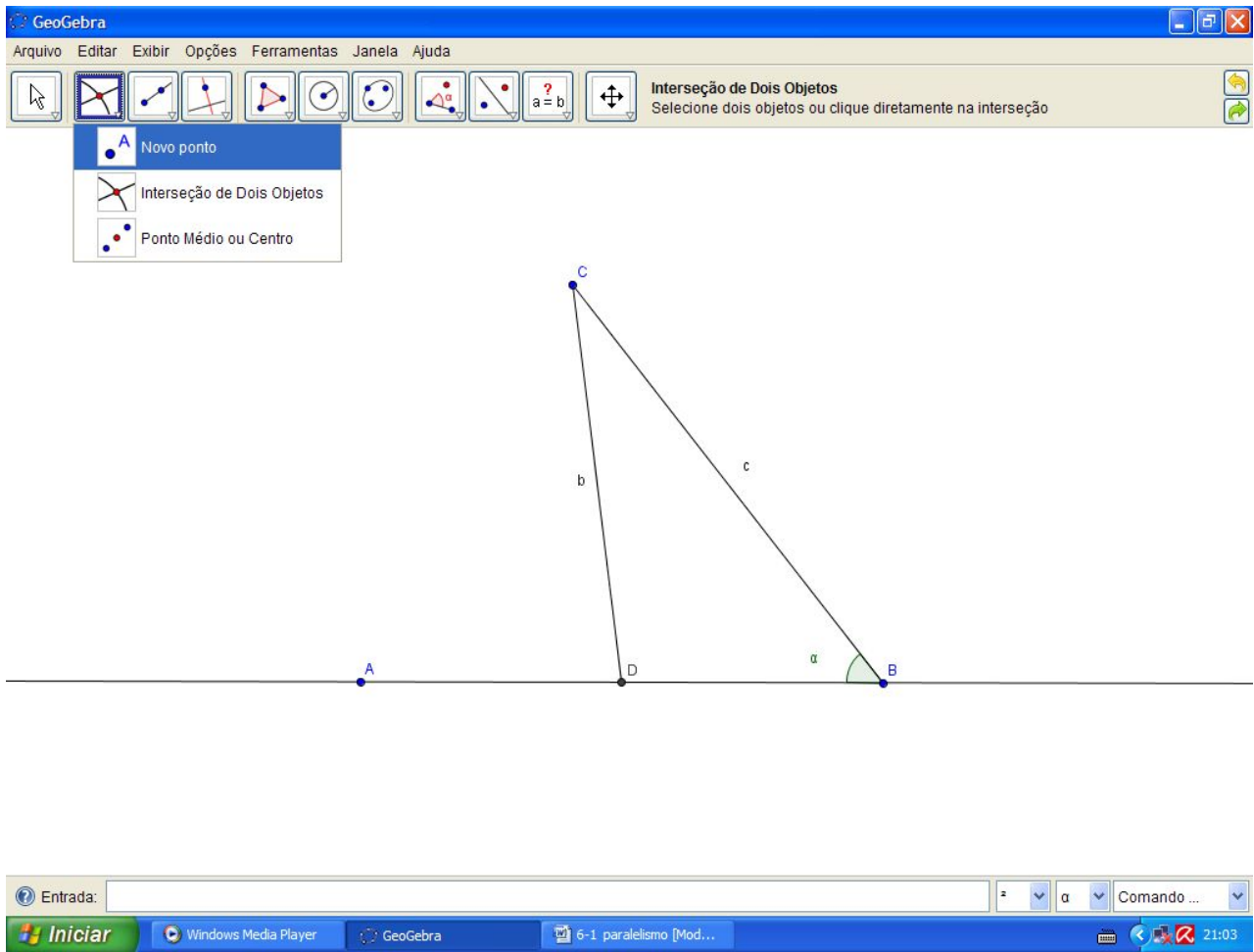


Use a ferramenta “ângulo” para esboçar o ângulo com os pontos D,B,C.

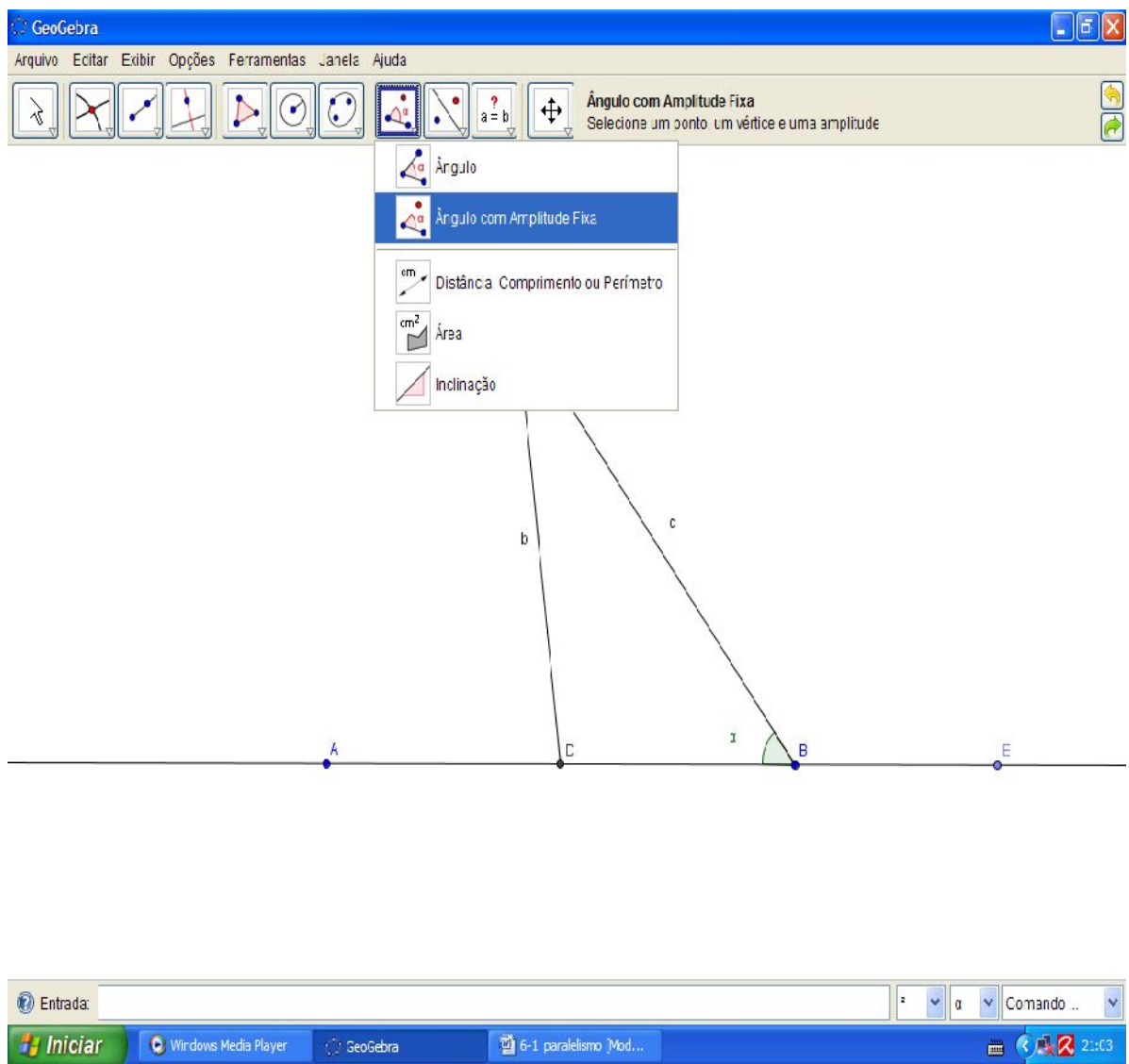


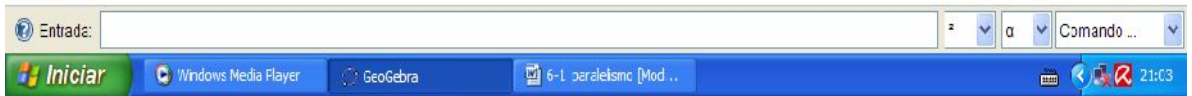


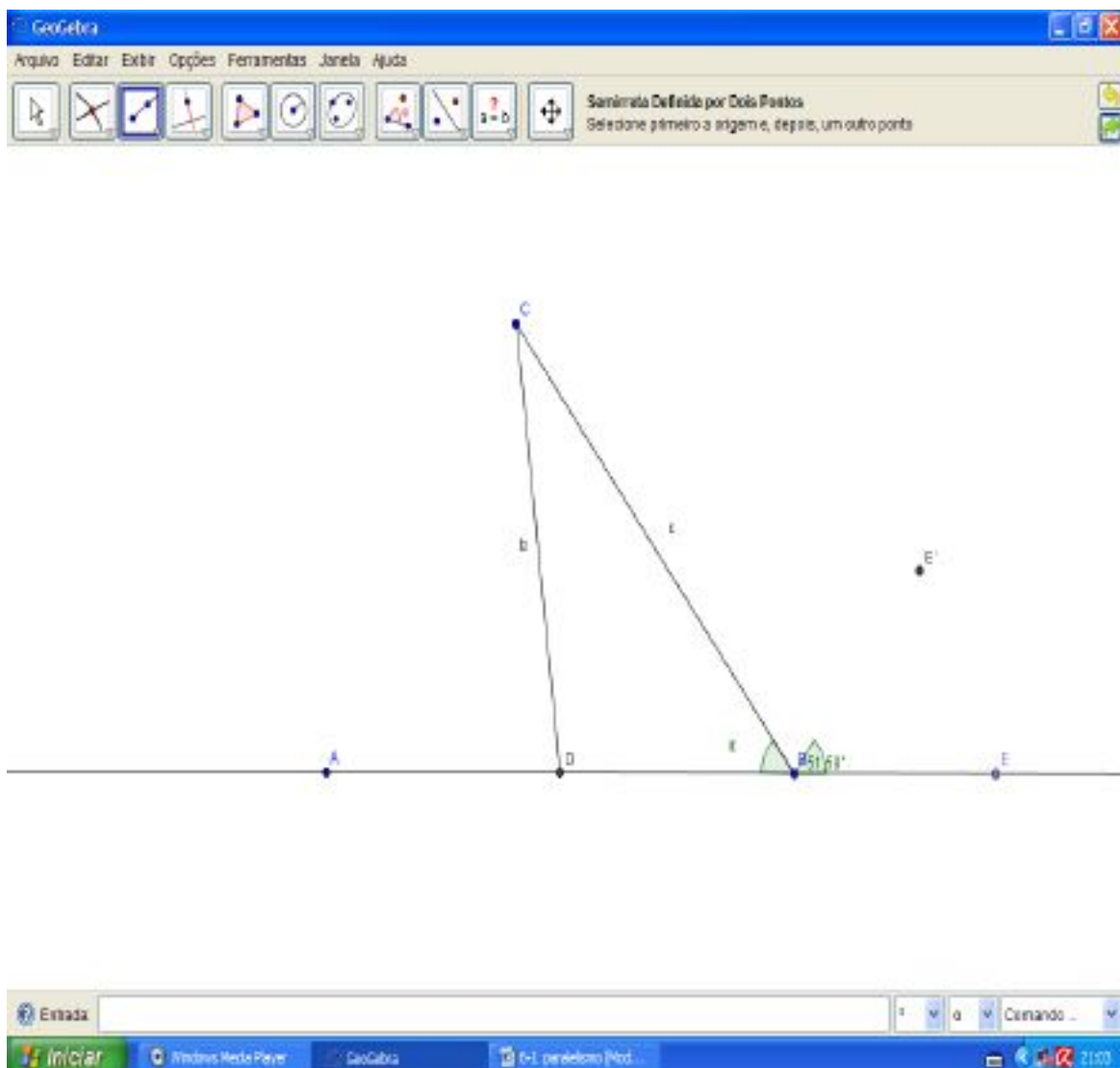
Insira um novo ponto E pertencente à reta AB fora do segmento DB e do lado oposto ao ponto A em relação ao segmento DC.



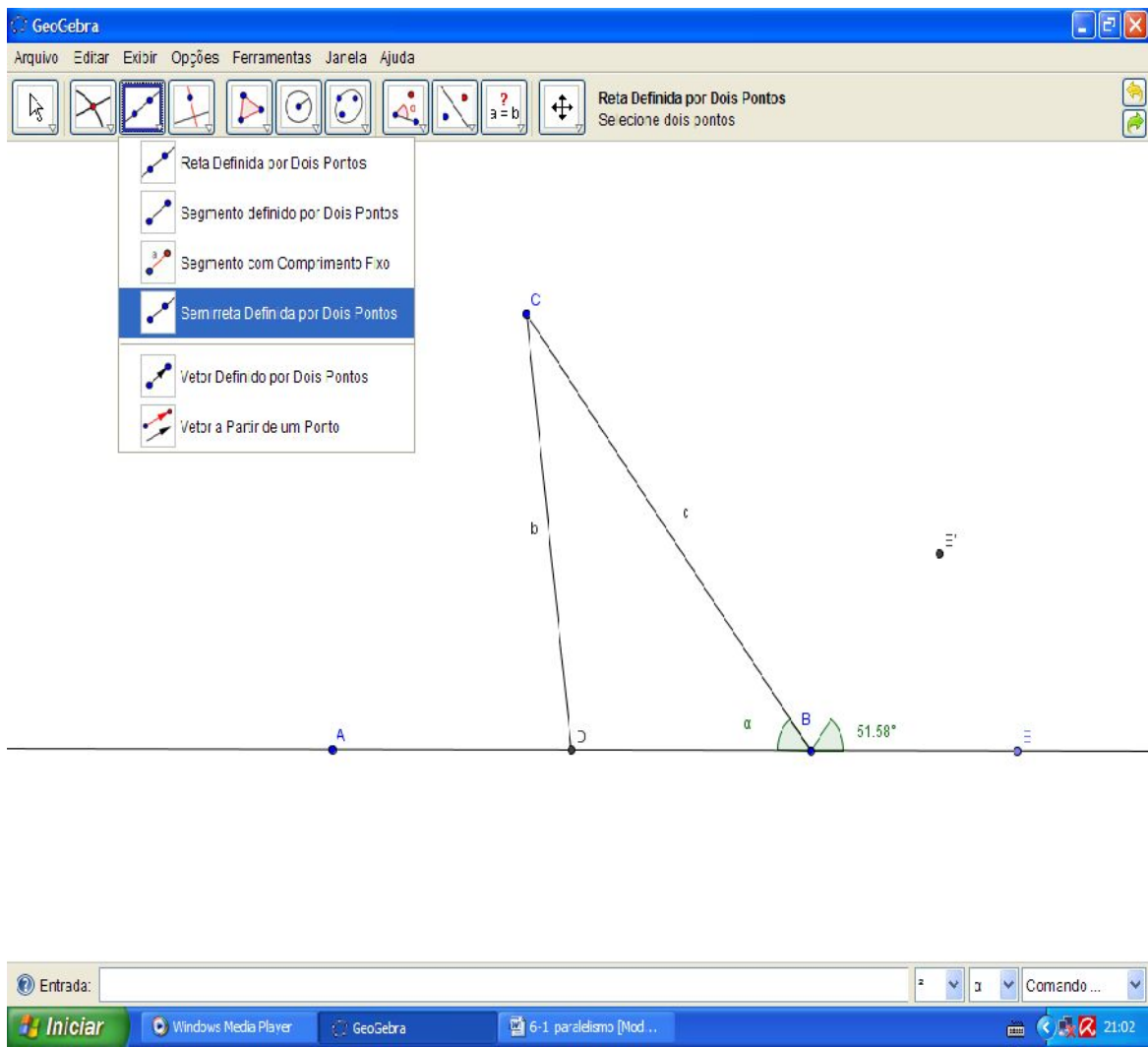
Agora esboce um ângulo com os pontos E,B,C.

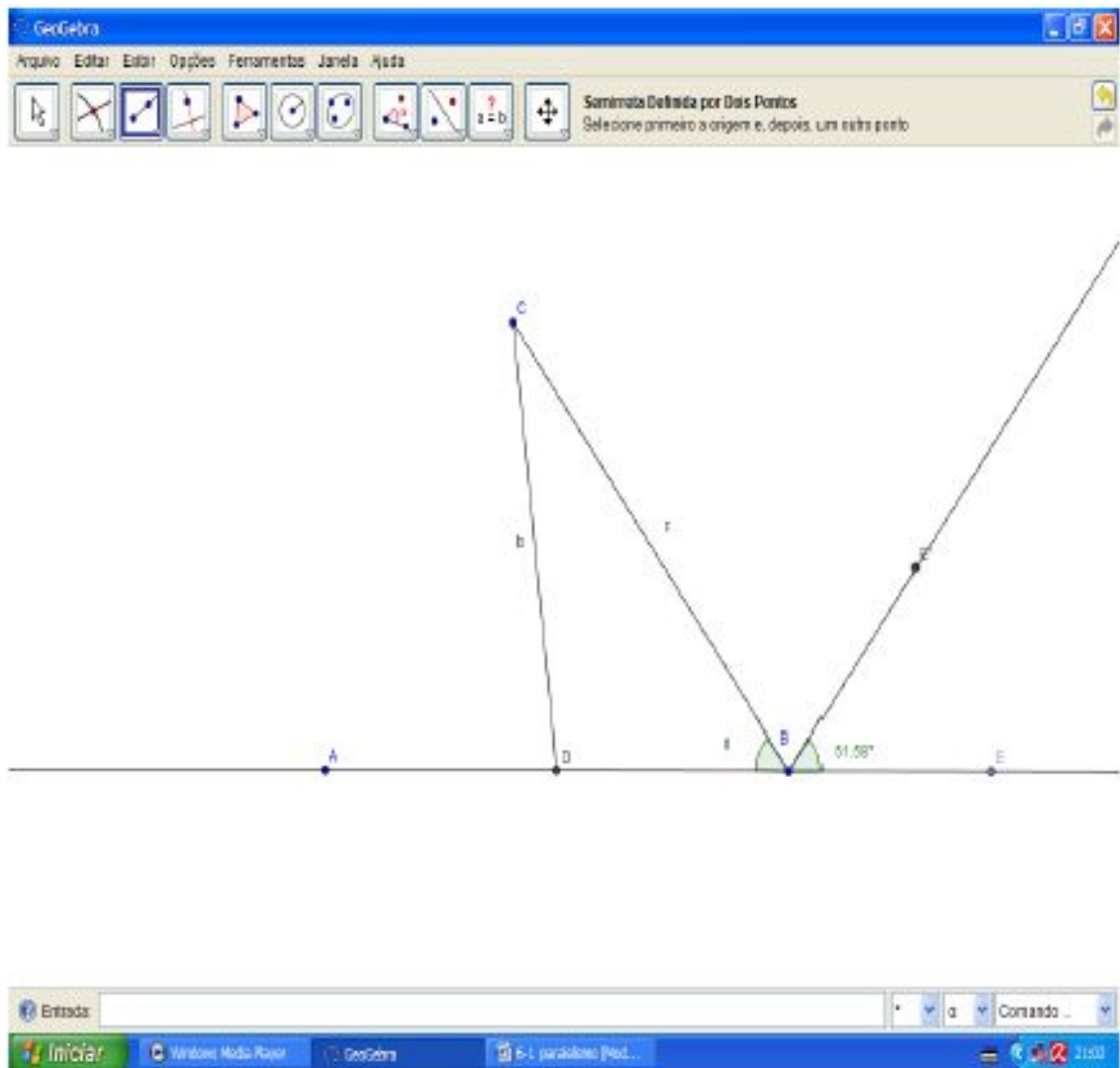




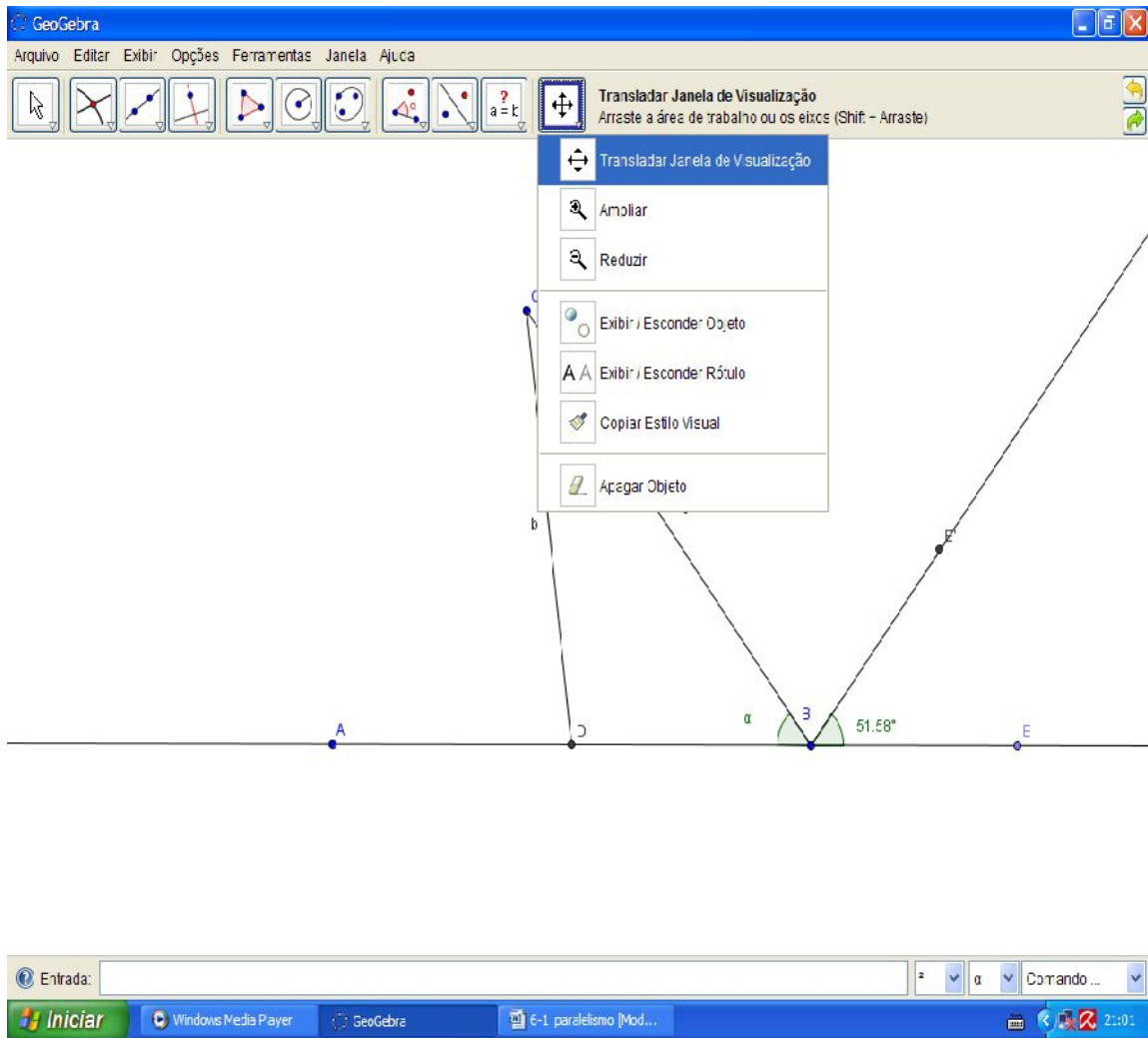


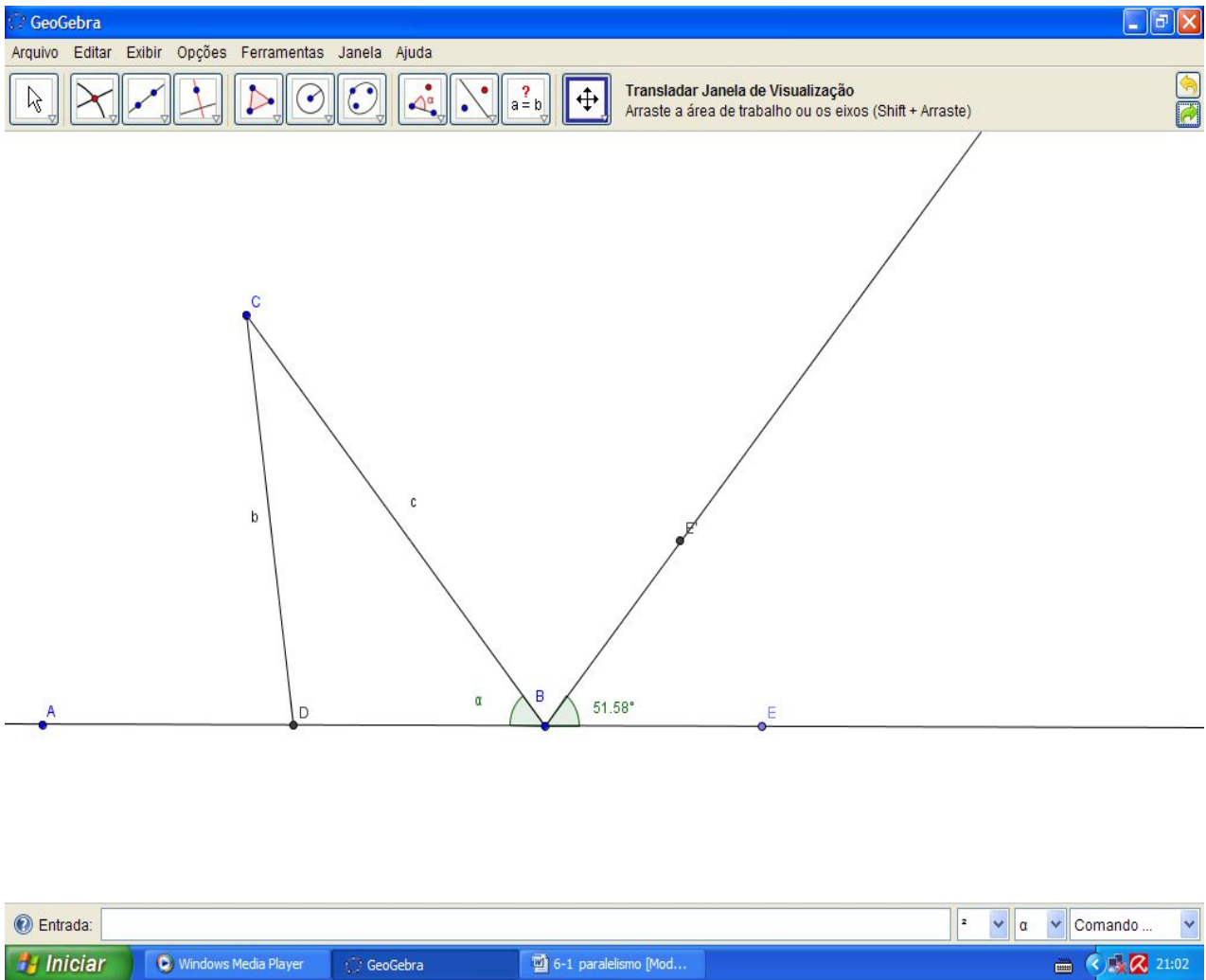
Trace uma semirreta BE' , sendo E' o ponto dado pelo ângulo fixo.



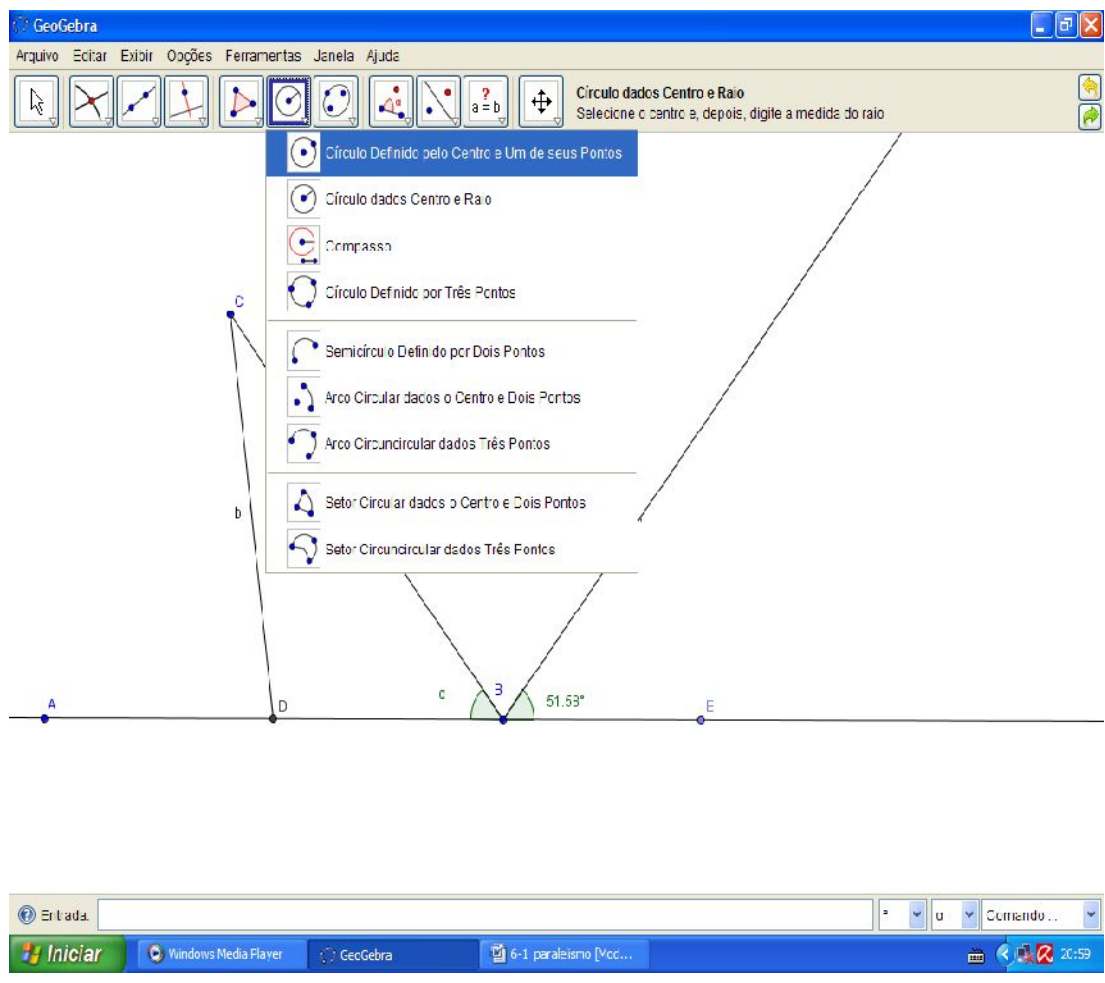


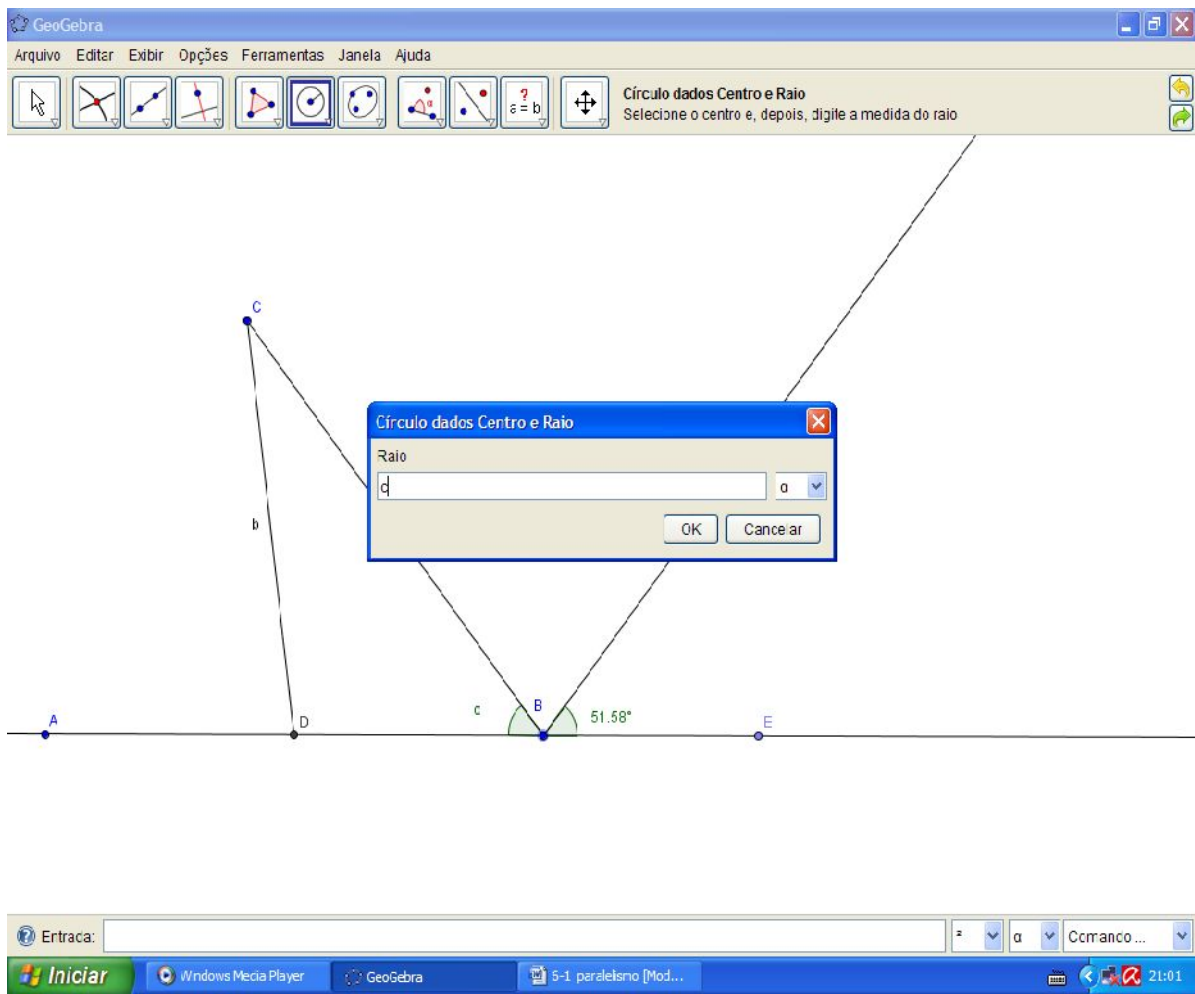
Ajuste a tela se necessário.





Com a ferramenta “Circunferência definida por centro e raio “abaixo da ferramenta em amostra” e defina como raio o segmento c ou medida de CB .





Encontre a interseção da semirreta BE' e passe uma reta por este ponto F e C.

GeoGebra

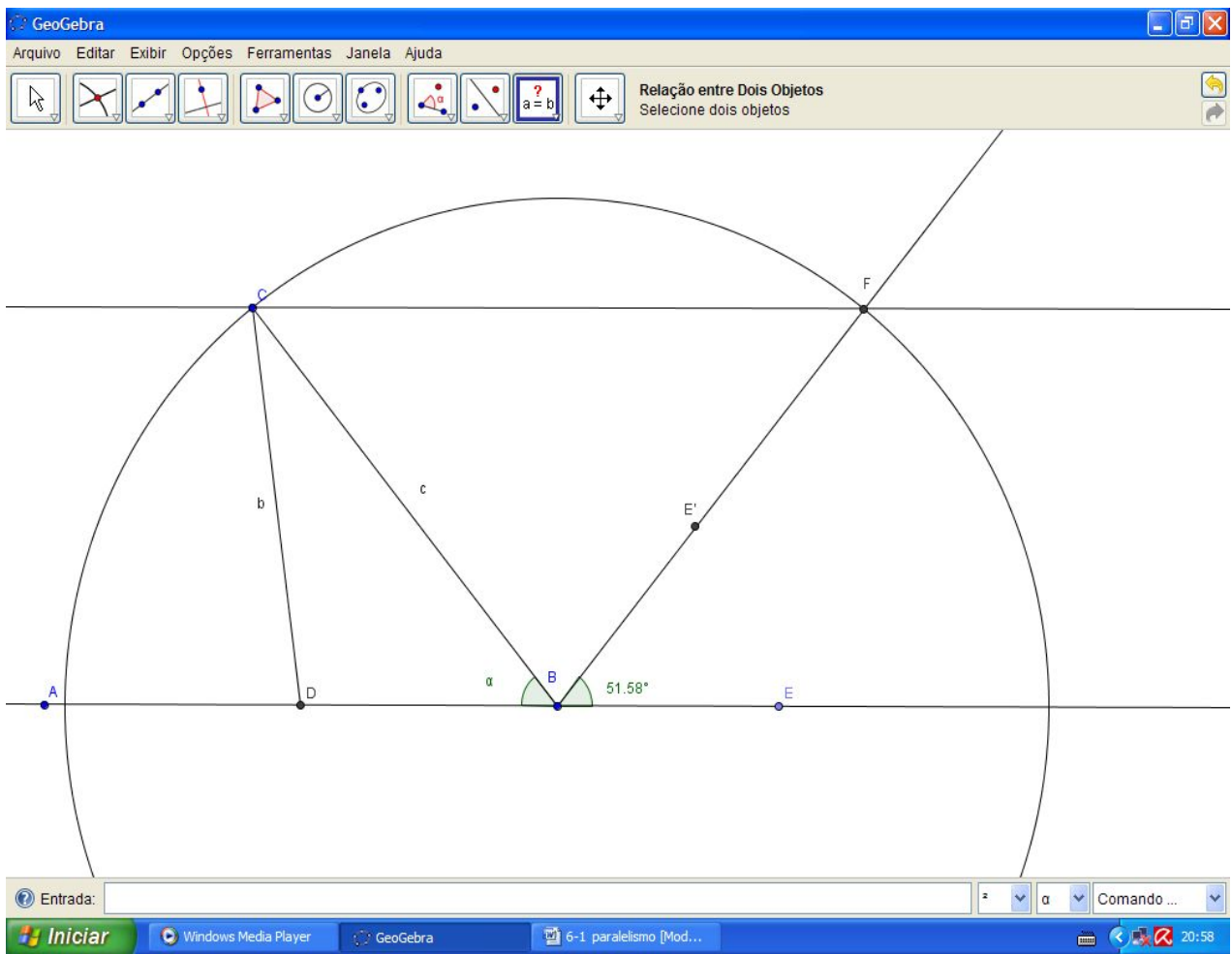
Arquivo Editar Exibir Opções Ferramentas Janela Ajuda

Círculo dados Centro e Raio
Selecione o centro e, depois, digite a medida do raio

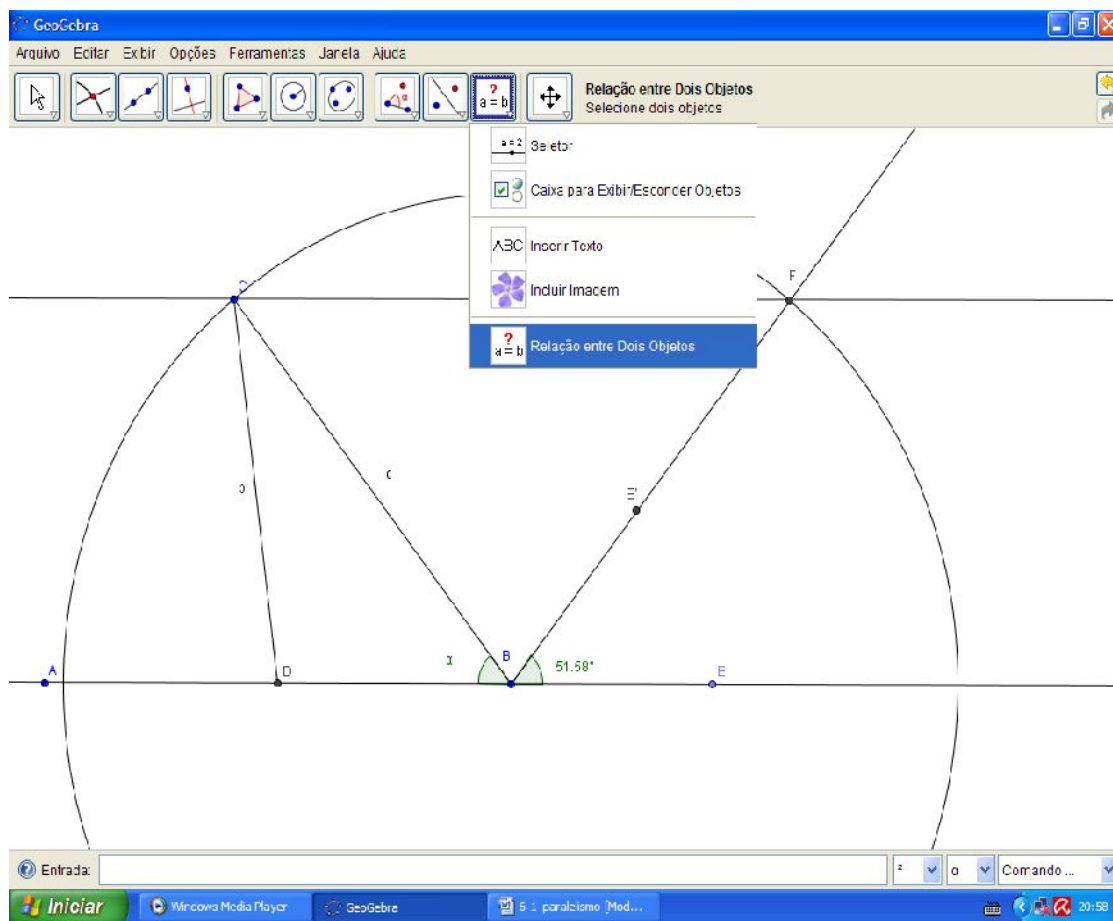
Entrada: α Comando ...

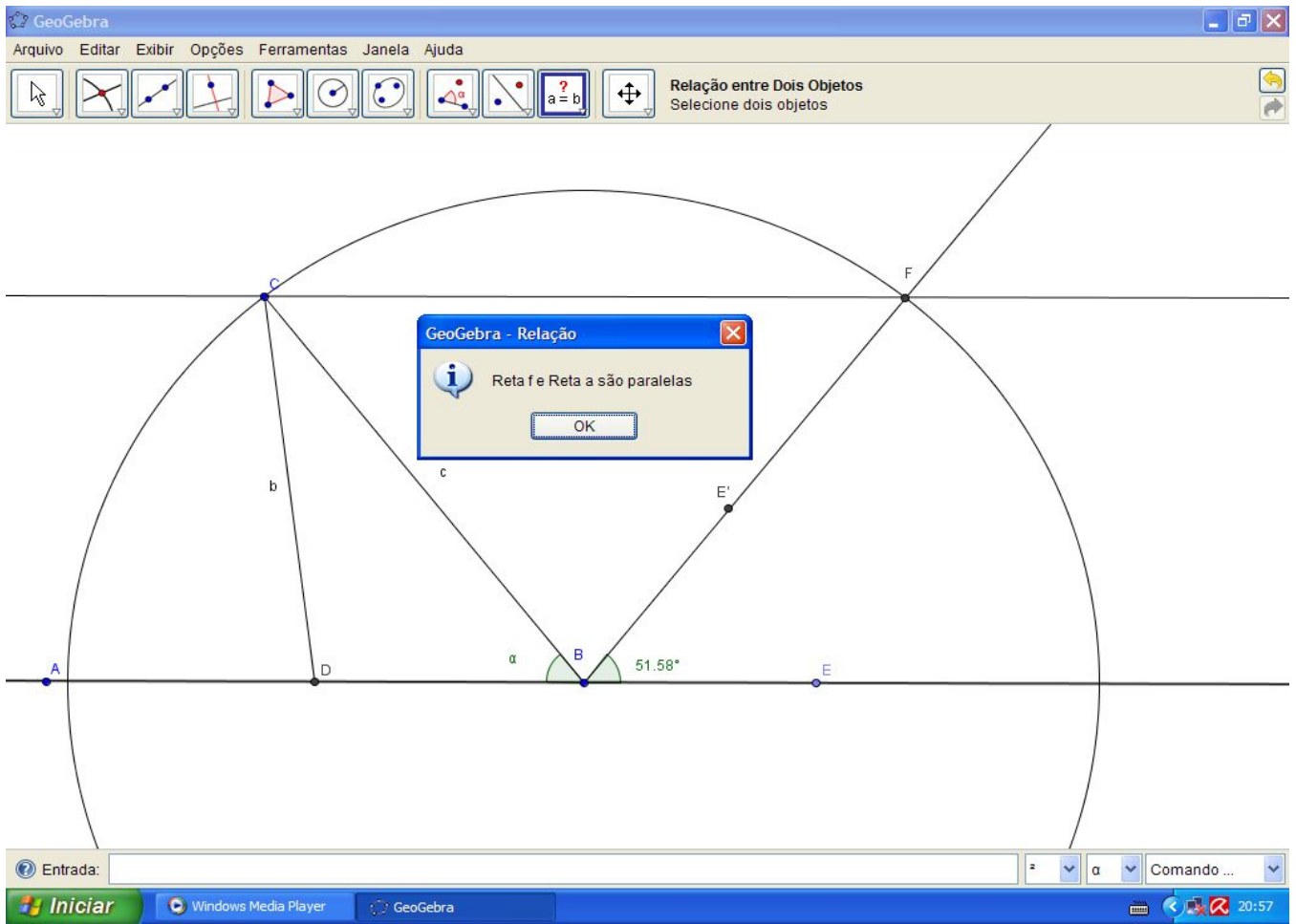
Iniciar Windows Media Player GeoGebra 6-1 paralelismo [Mod...]

20:59



Use a ferramenta “relação entre dois objetos” e clique nas retas CF e AB.



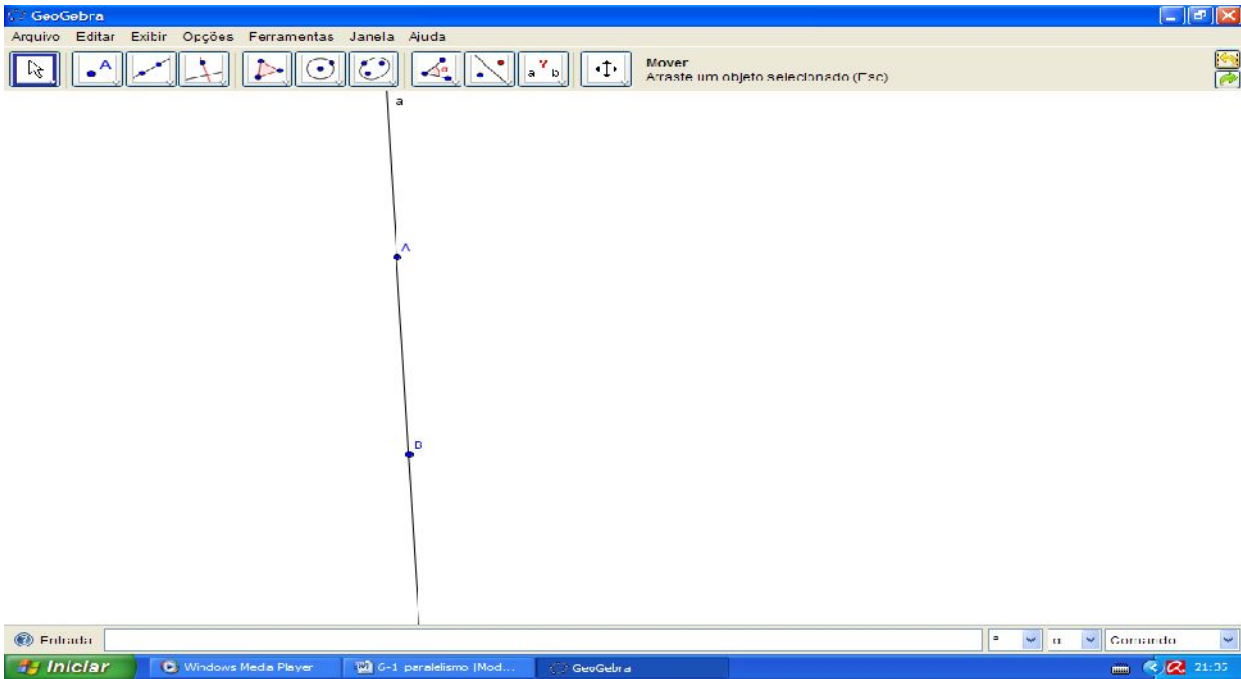


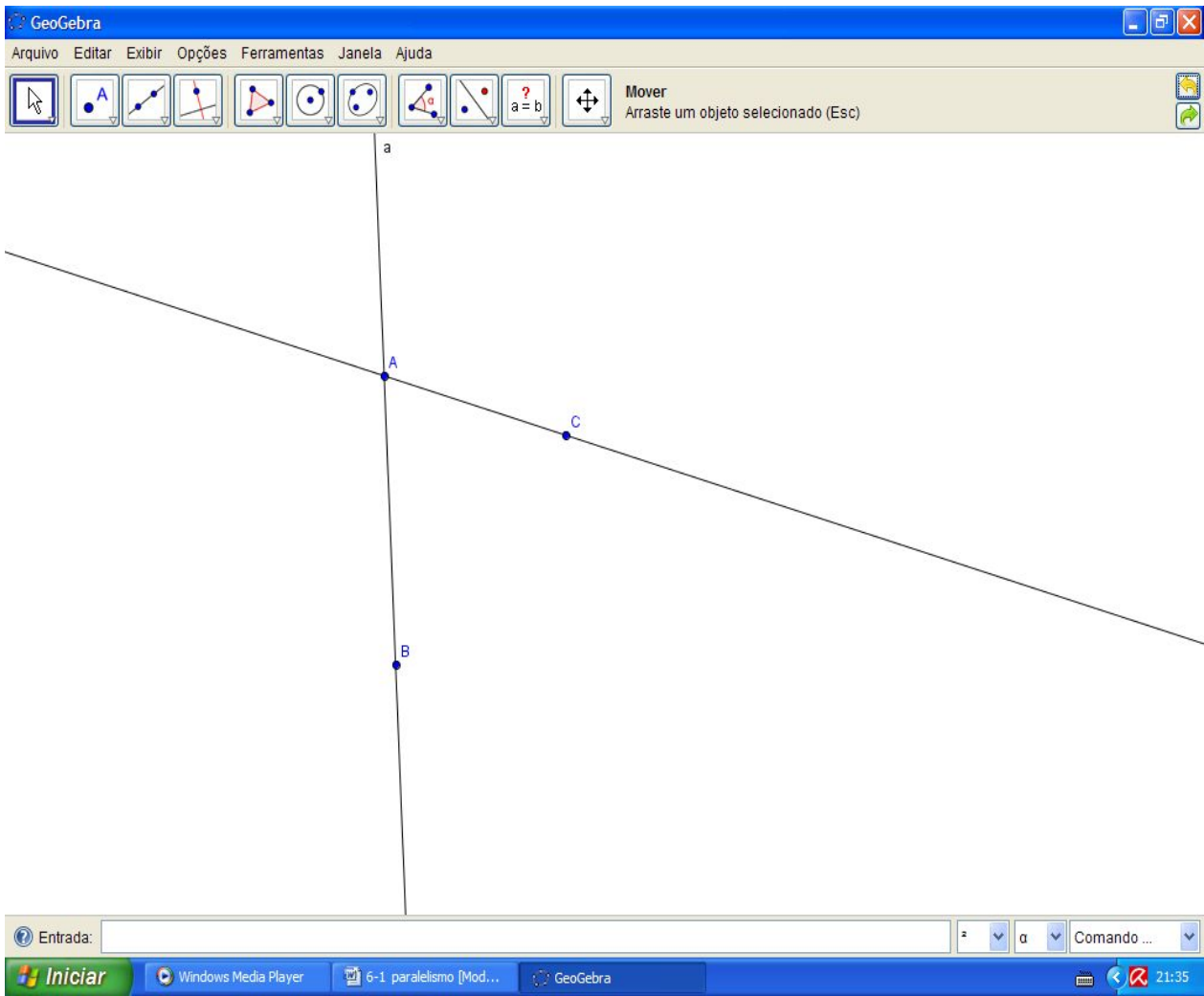
Podemos ainda usar a ferramenta “reta paralela” para clicar nas retas AB e CF para verificar.

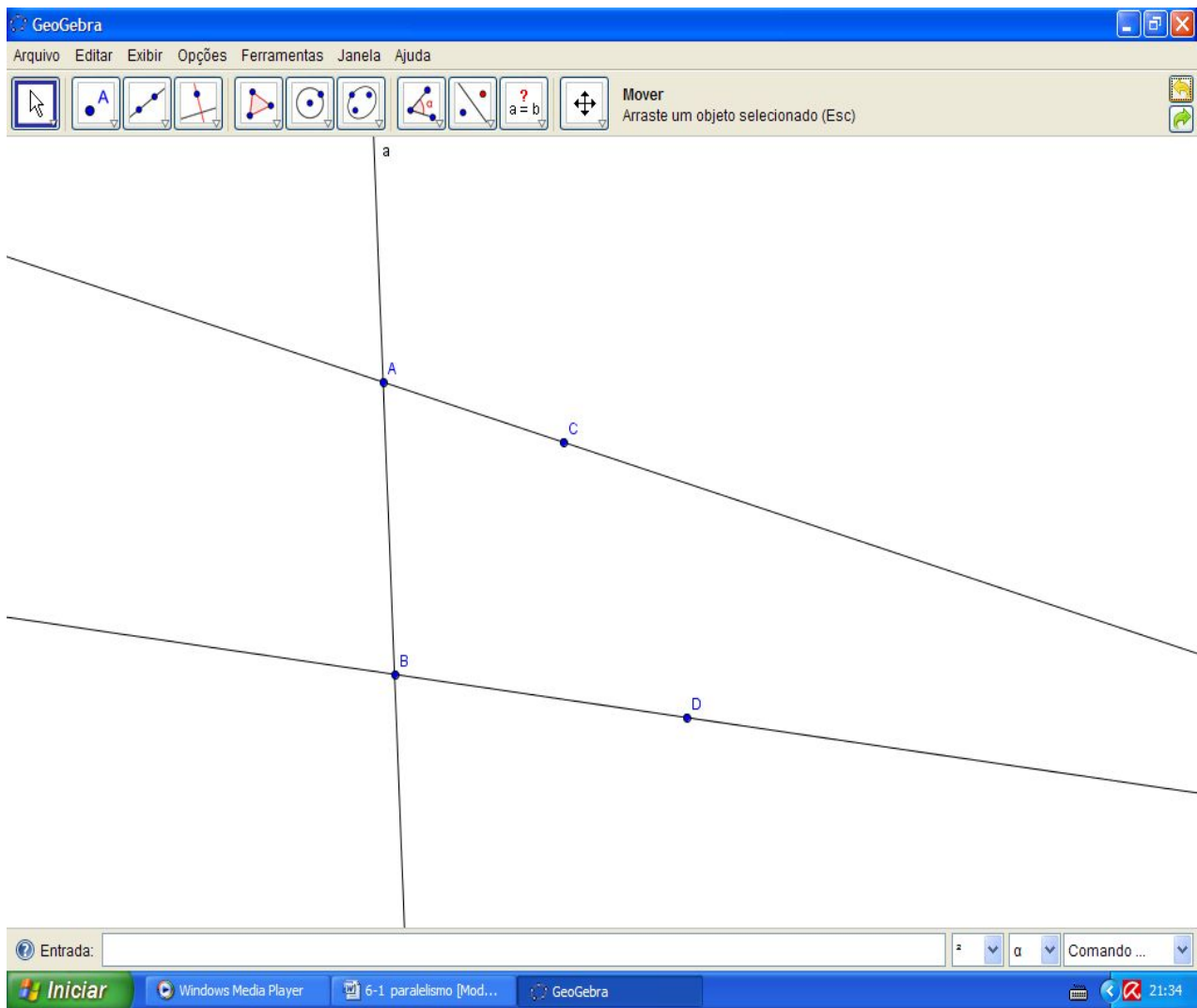
RETAS NÃO PARALELAS

Seja uma reta interseccionando duas outras retas de forma que os ângulos internos de um mesmo lado sejam (em conjunto ou soma) menores que dois ângulos retos, então as duas retas, prolongadas indefinidamente se encontram num ponto do mesmo lado em que os dois ângulos são menores que dois ângulos retos.

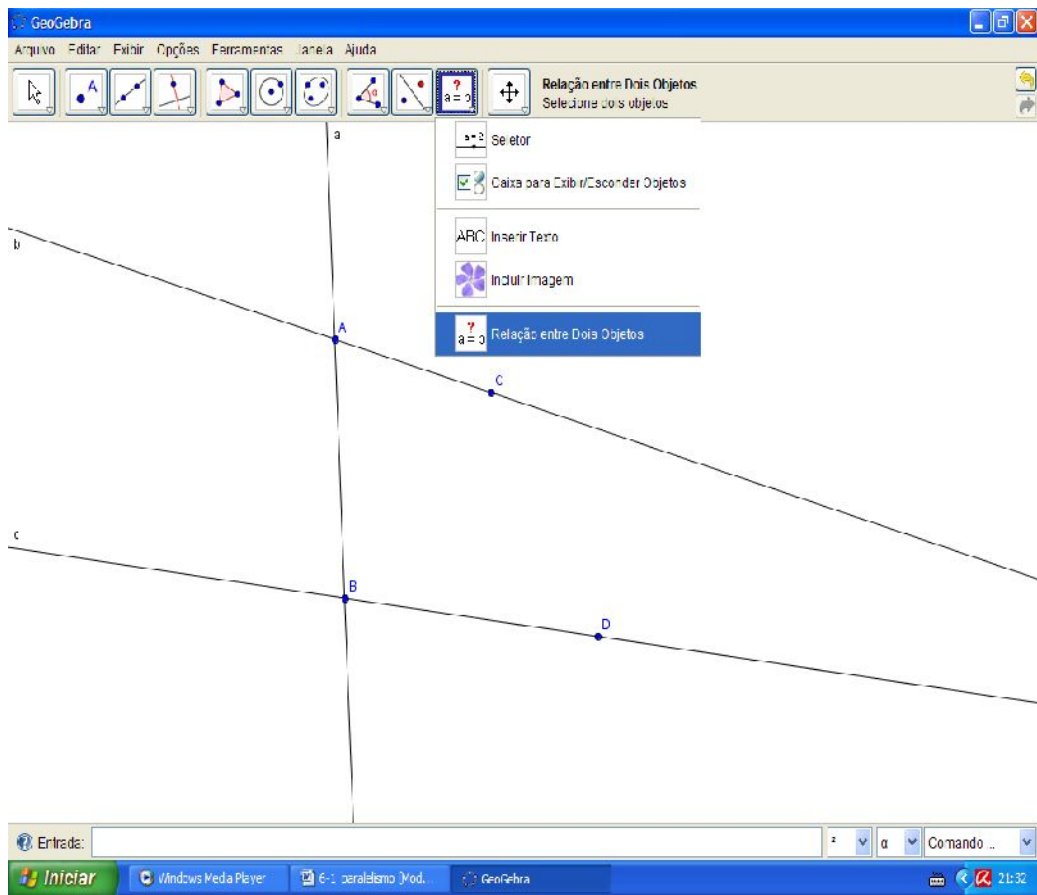
Dado uma reta AB, construa outras duas passando uma pelo ponto A e outra pelo ponto B.

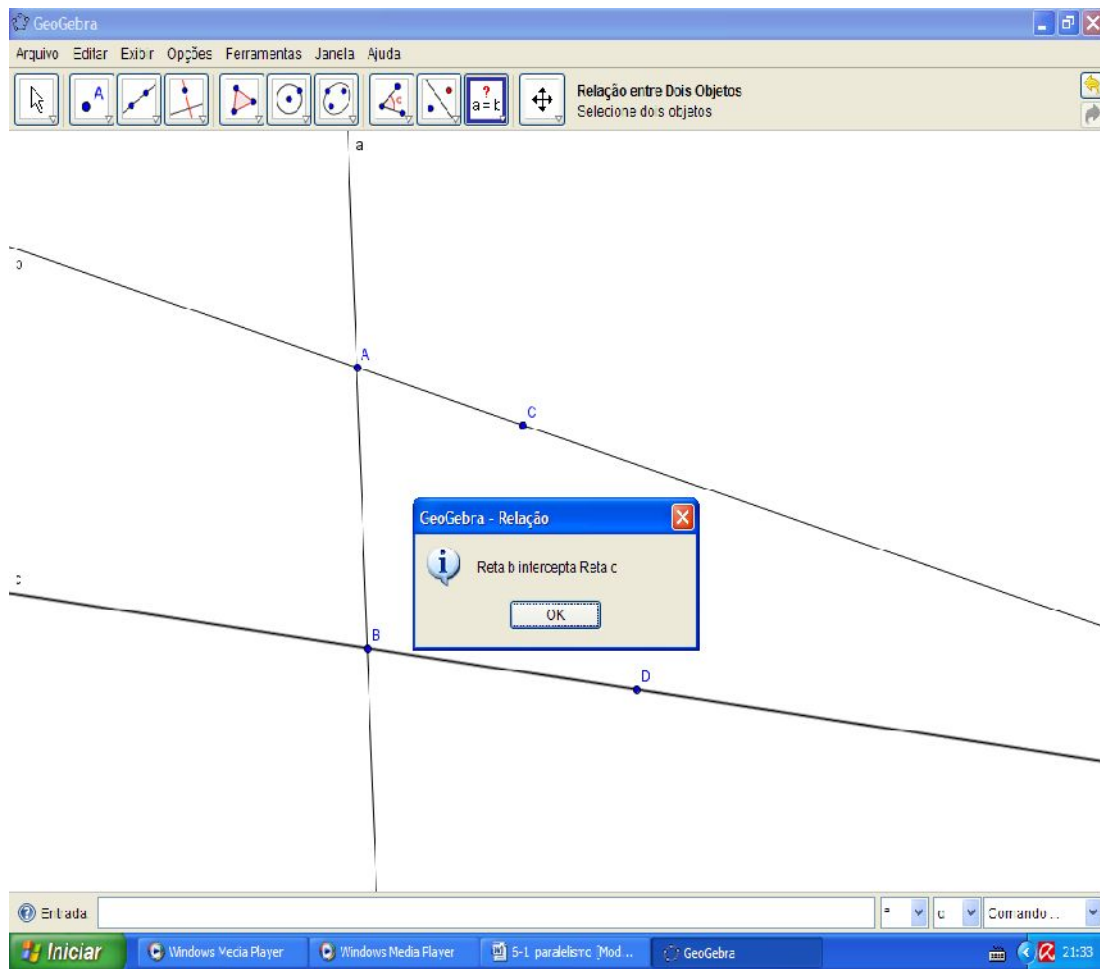




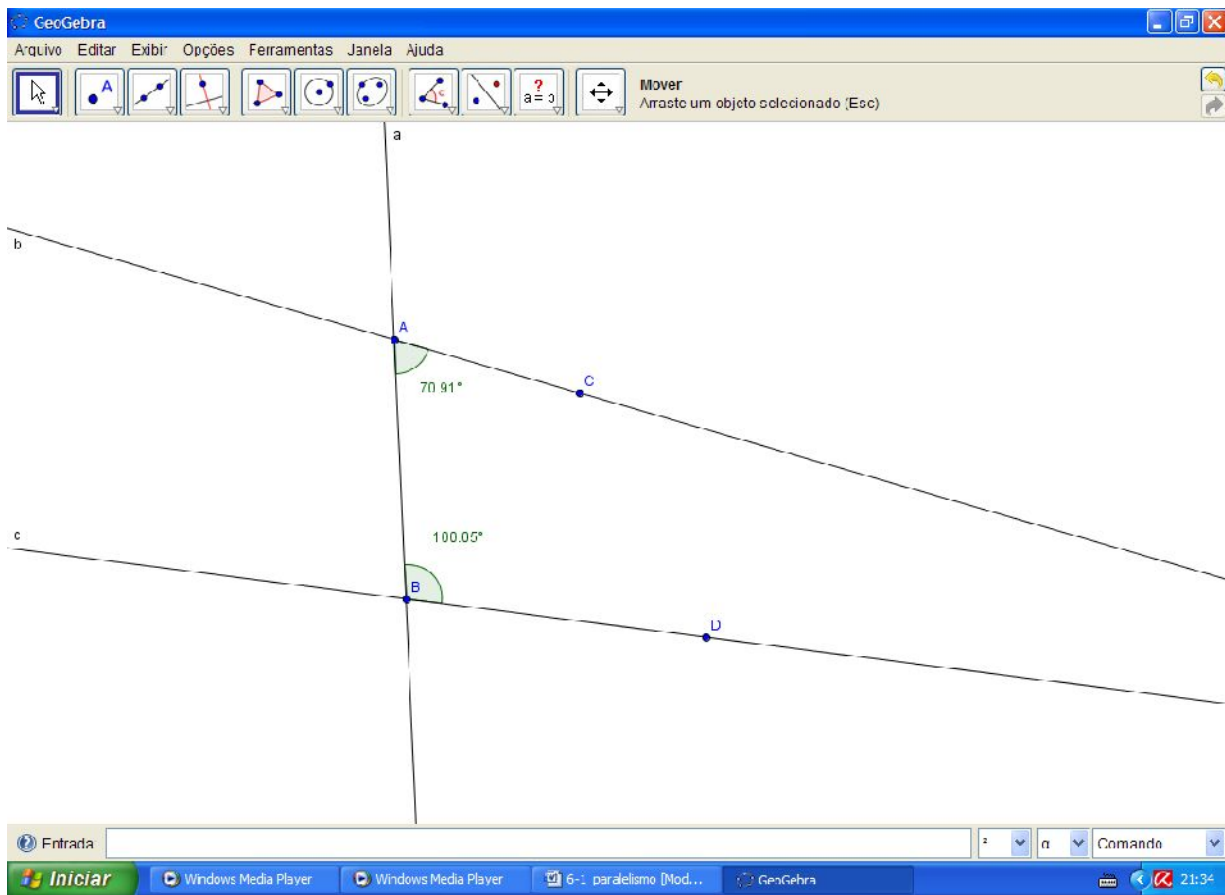


Use agora a ferramenta “relação entre dois objetos” para clicar nas duas retas construídas e verificar sua relação.





Note que o software só acusa a intersecção, então para verificar o lado, use a ferramenta “ângulo” e esboce os ângulos \hat{DBA} e $\hat{B\hat{A}C}$.

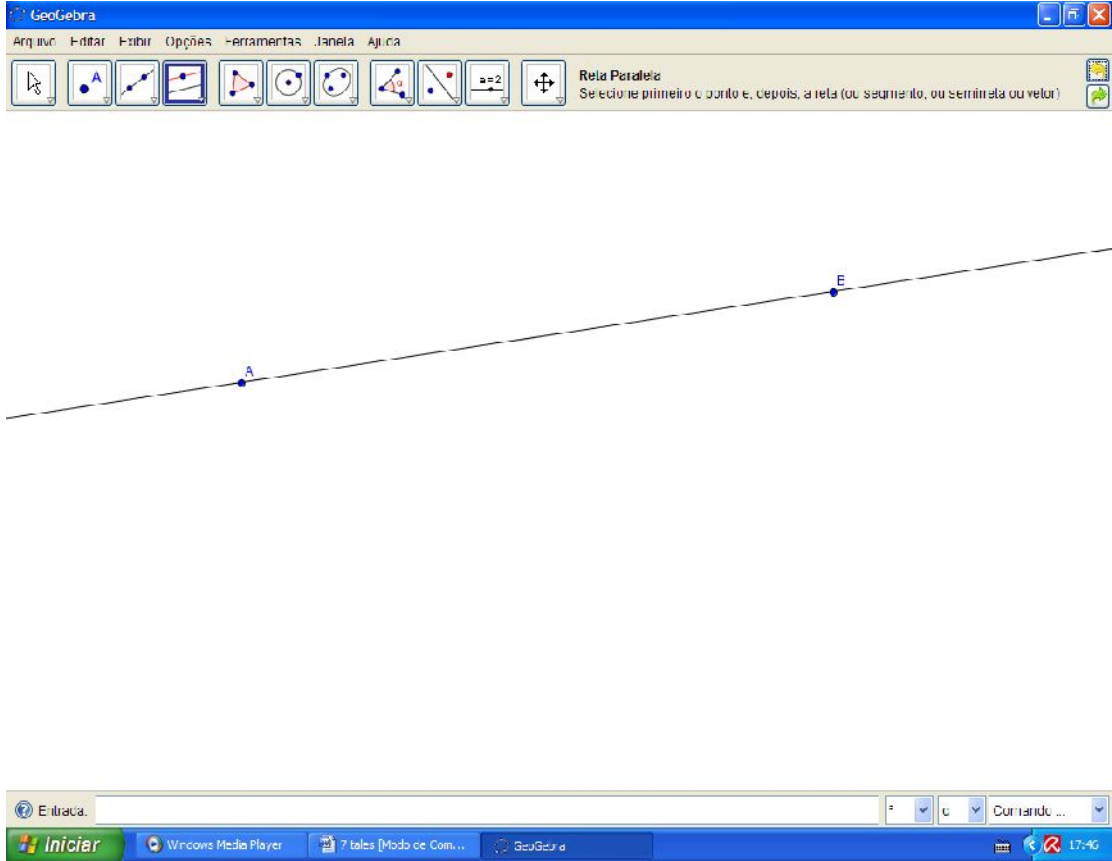


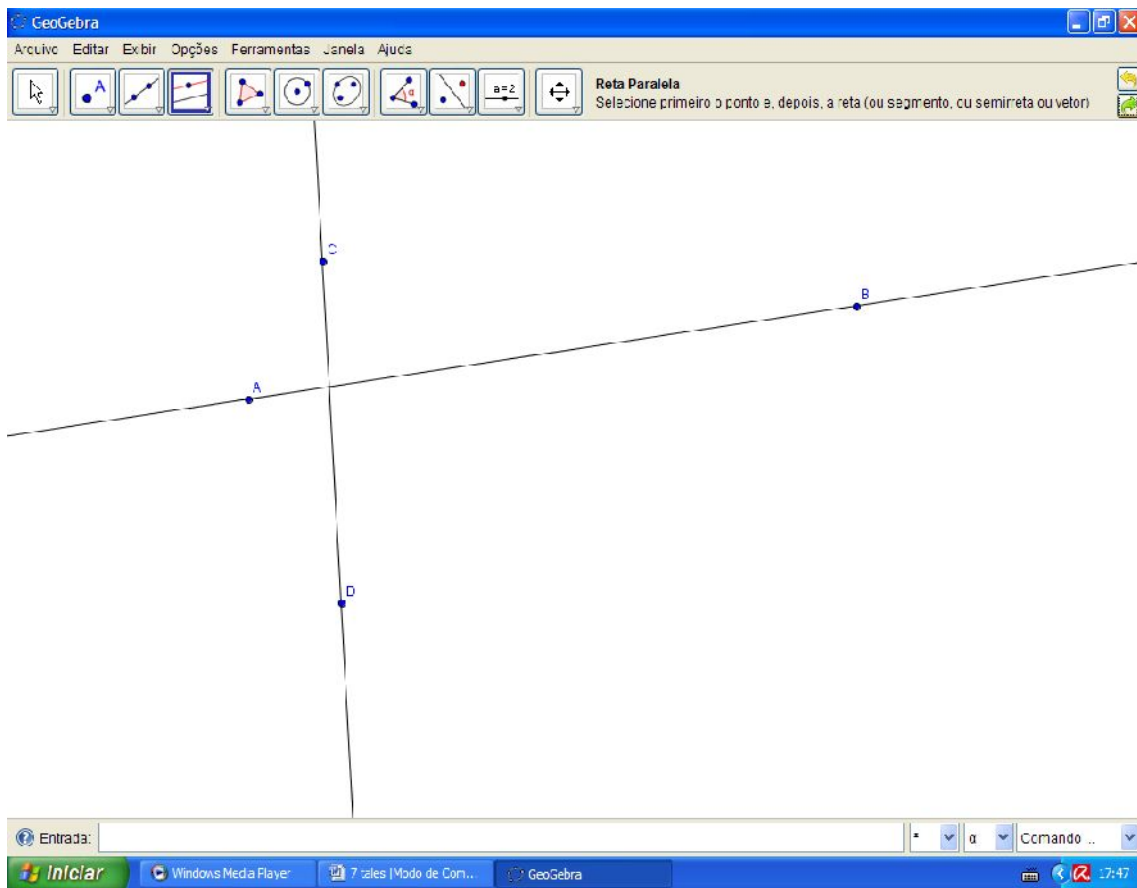
Perceba que a soma destes é menor que 180° ou dois retos, logo restam mover a tela nesta direção e verificar que eles iram em um determinado momento se tocar, o que validará a definição anterior.

Consequência das paralelas, correspondência dos ângulos dada uma reta e duas paralelas distintas concorrentes a ela.

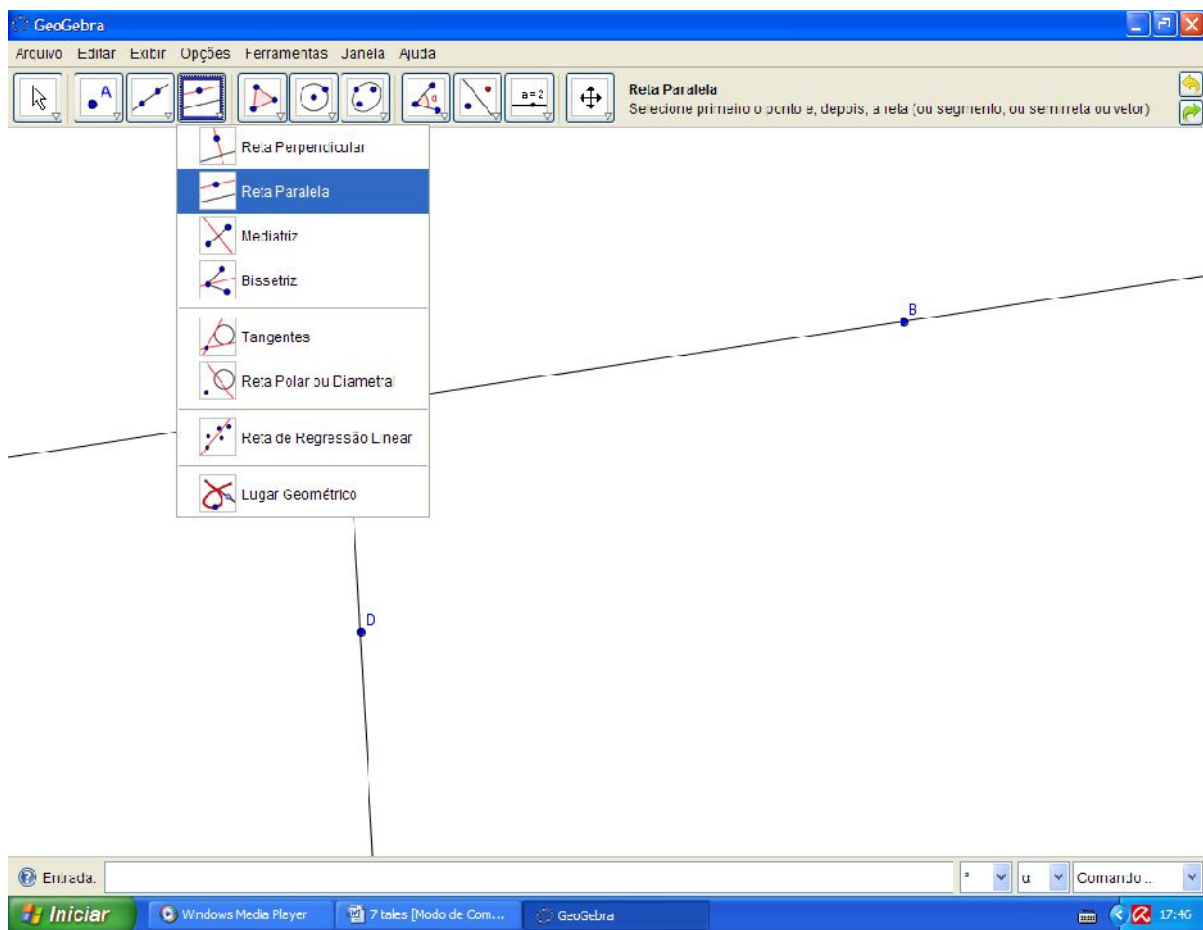
Dada uma reta AB, construa outras duas na seguinte forma:

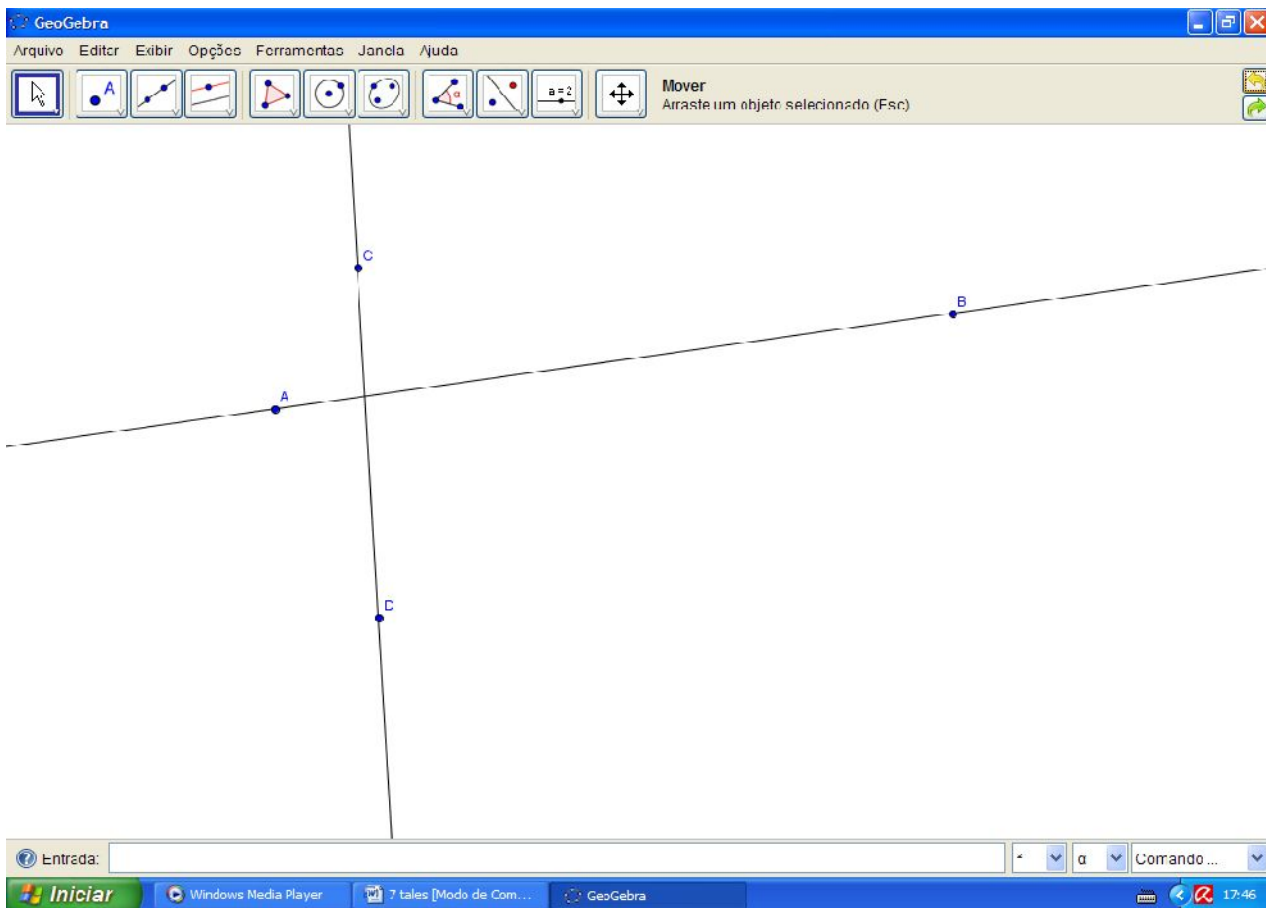
Primeiro trace uma CD concorrente a reta dada;

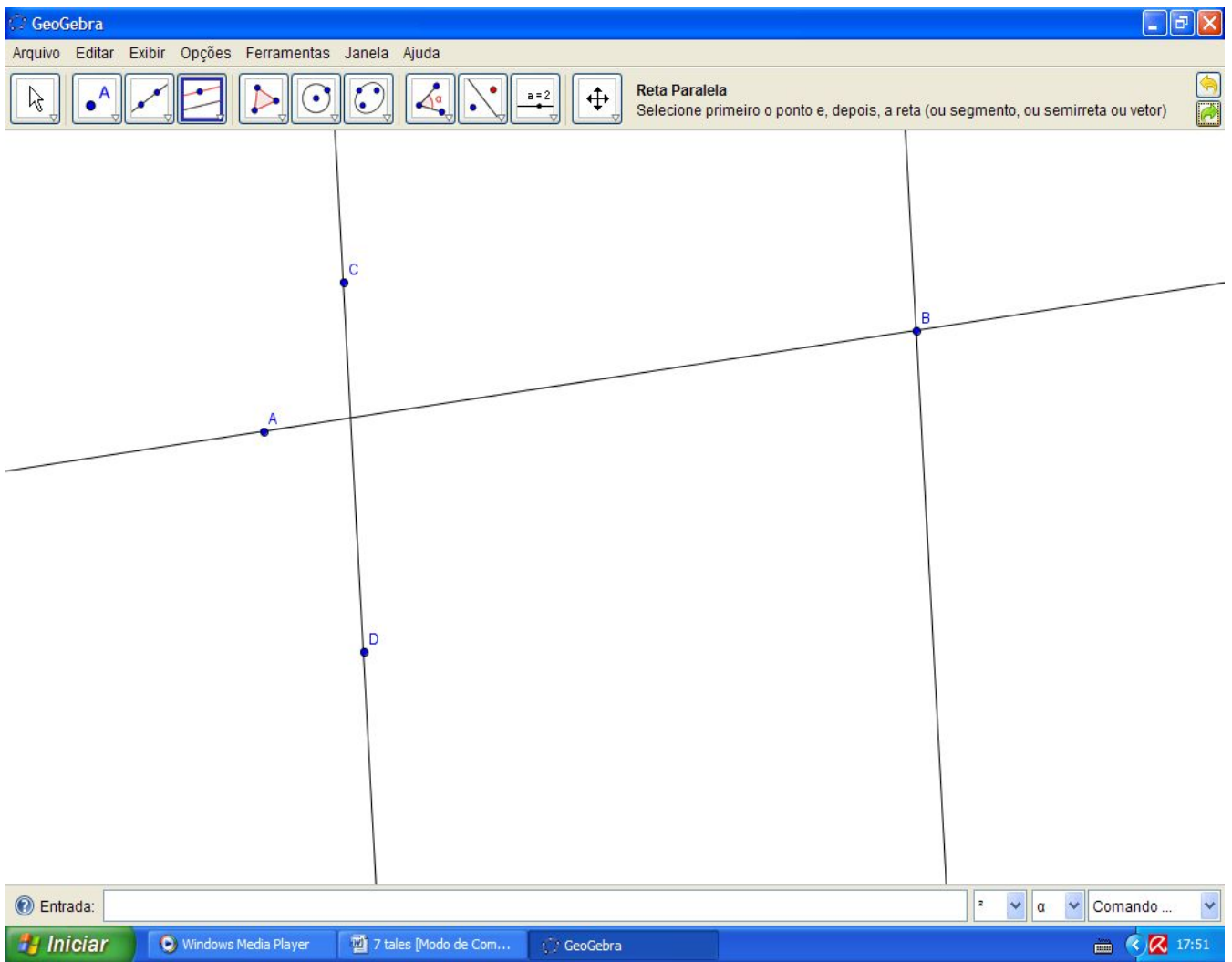




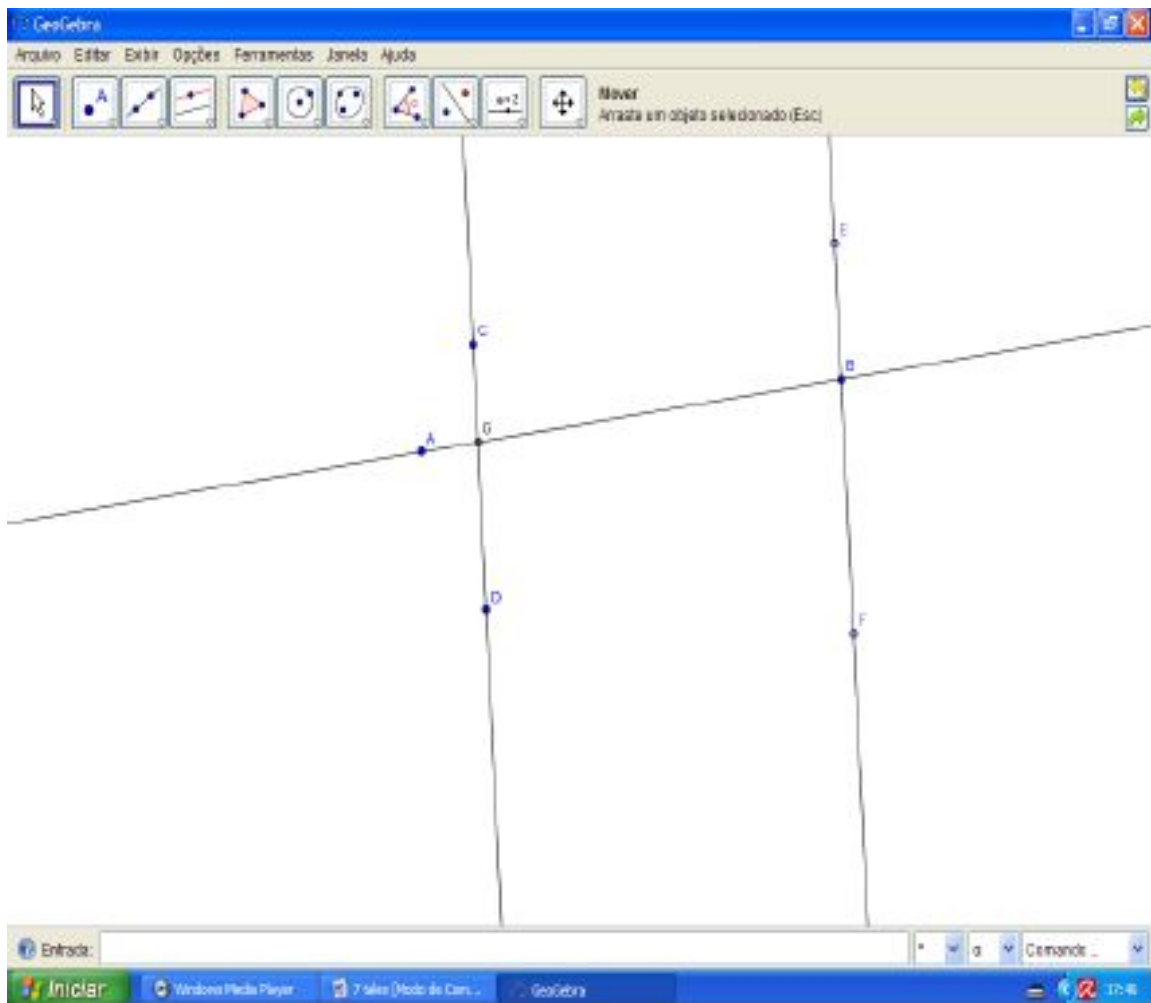
Agora use a ferramenta “reta paralela”, clique no ponto B onde passará a reta paralela a CD.



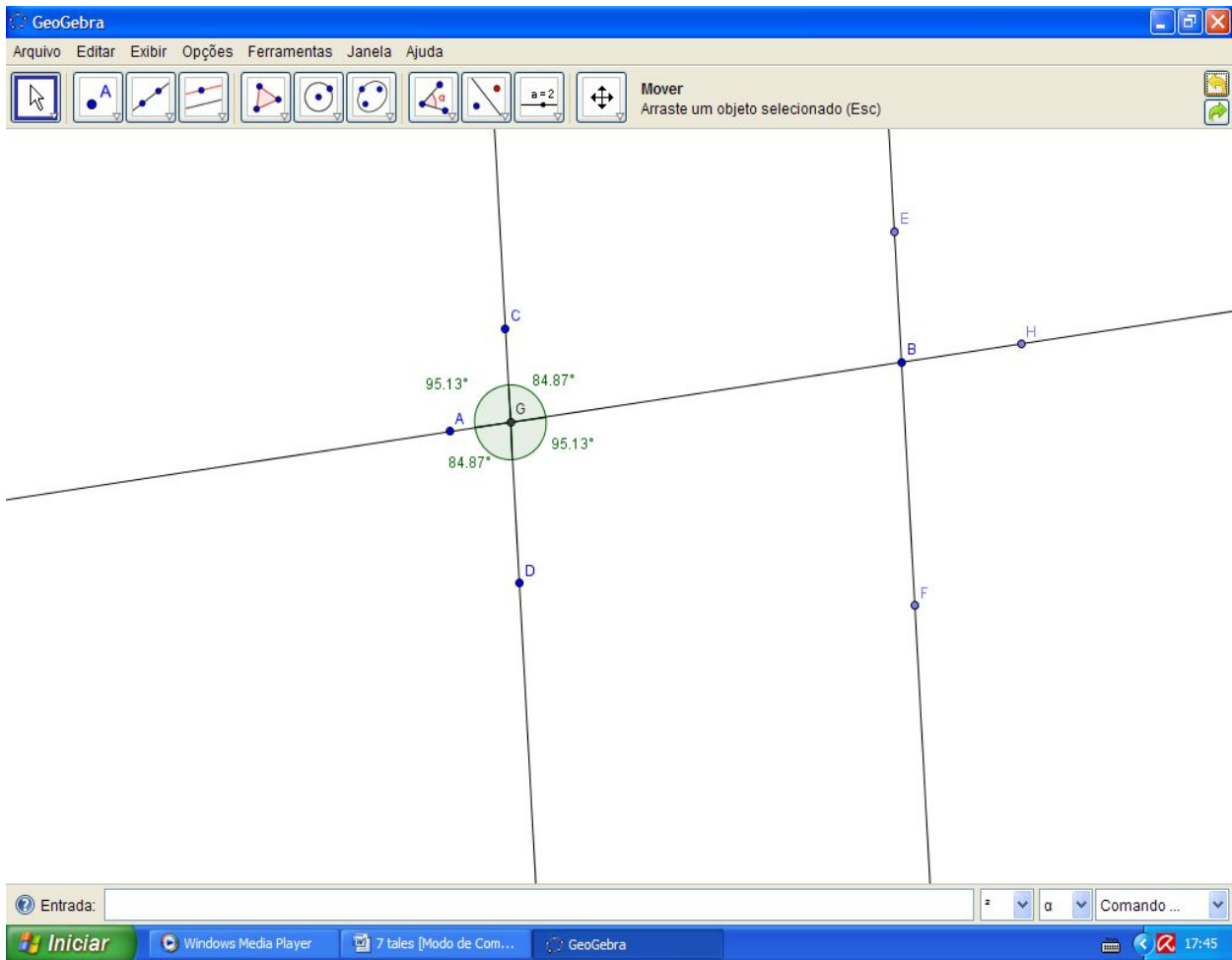




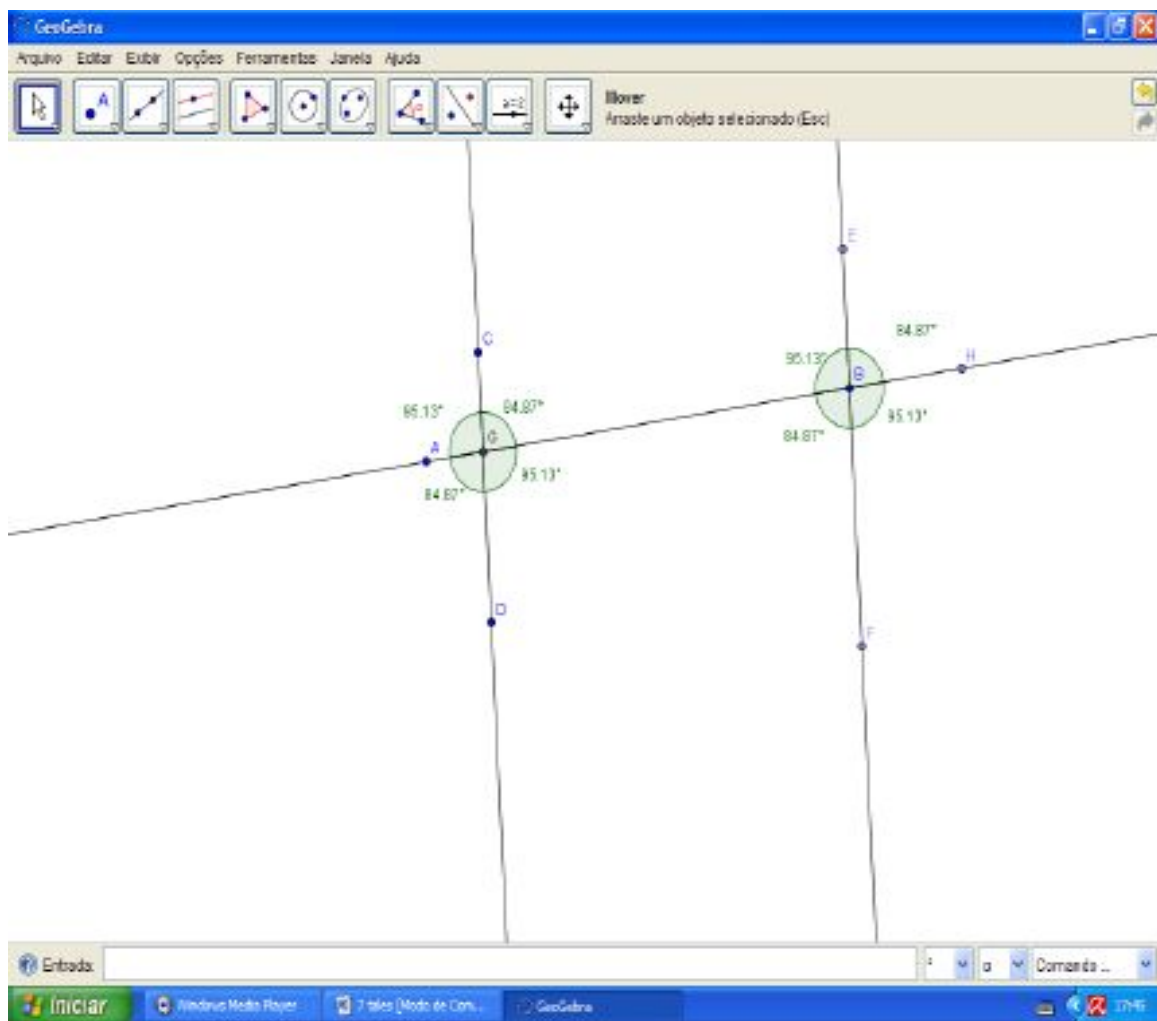
Nesta reta insira dois pontos distintos E e F, um de cada lado de B.



Encontre agora o ponto de intersecção entre as retas AB e CD, depois encontre os ângulos formados por elas.

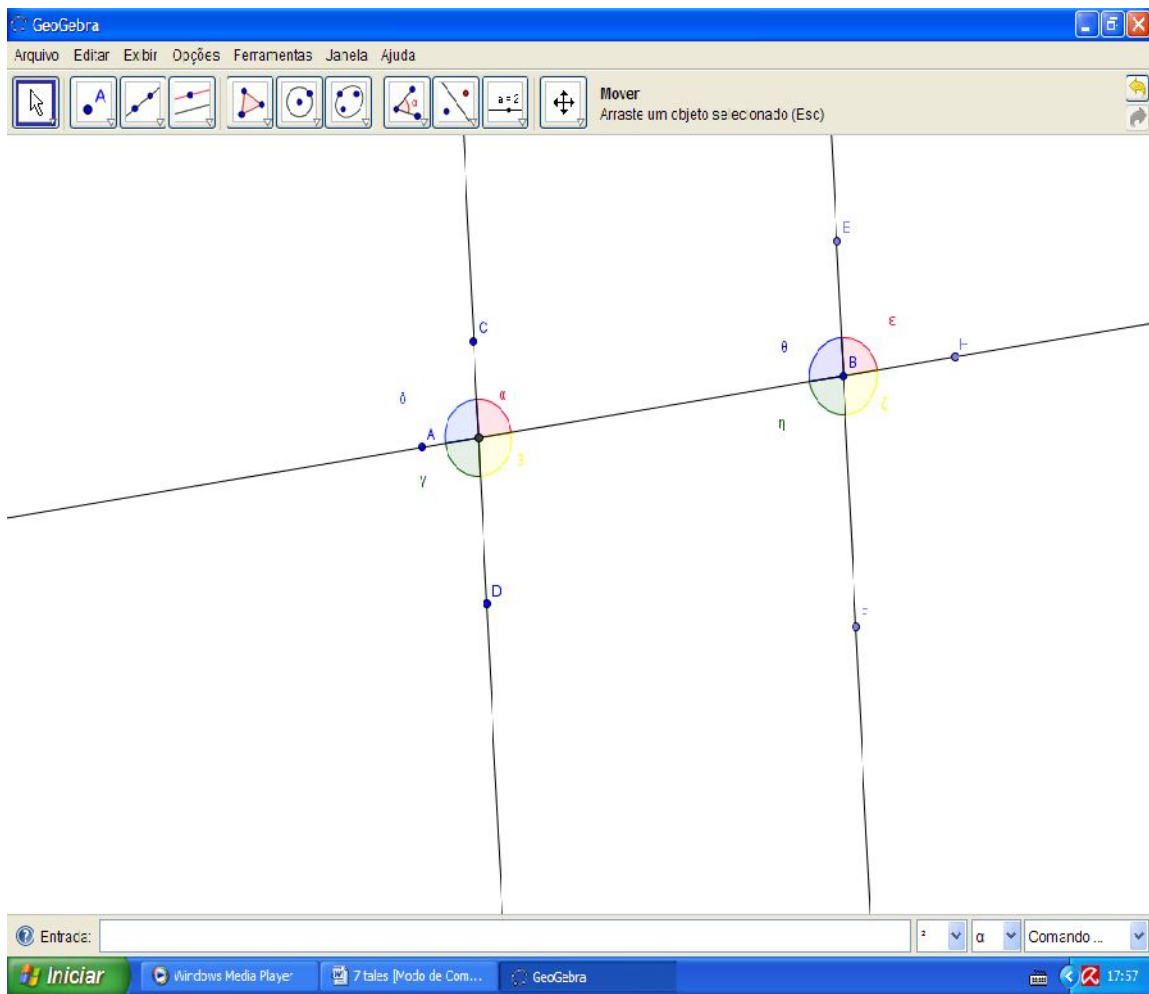


Repita o processo nas retas AB e EF.

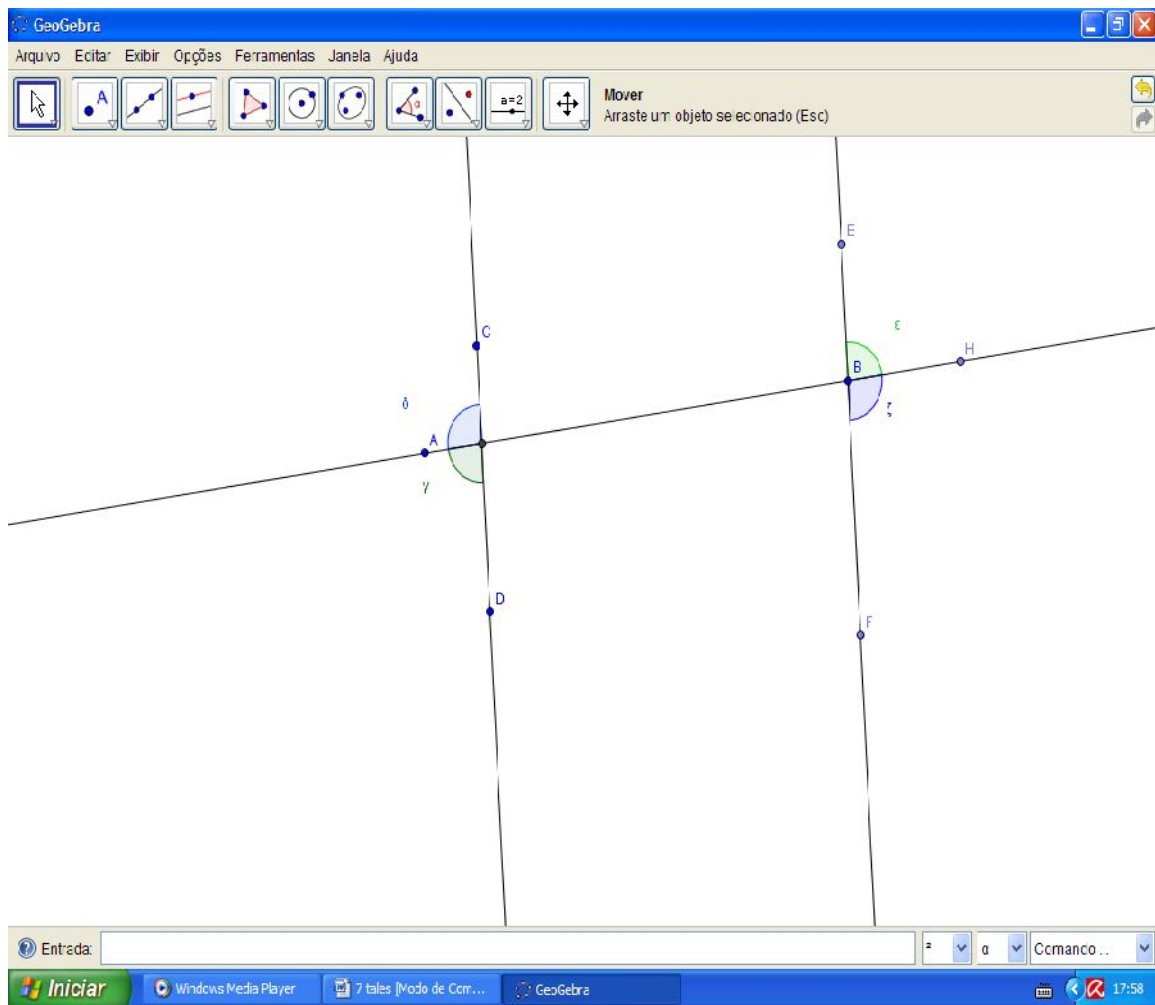


Perceba a relação de correspondência entre seus ângulos.

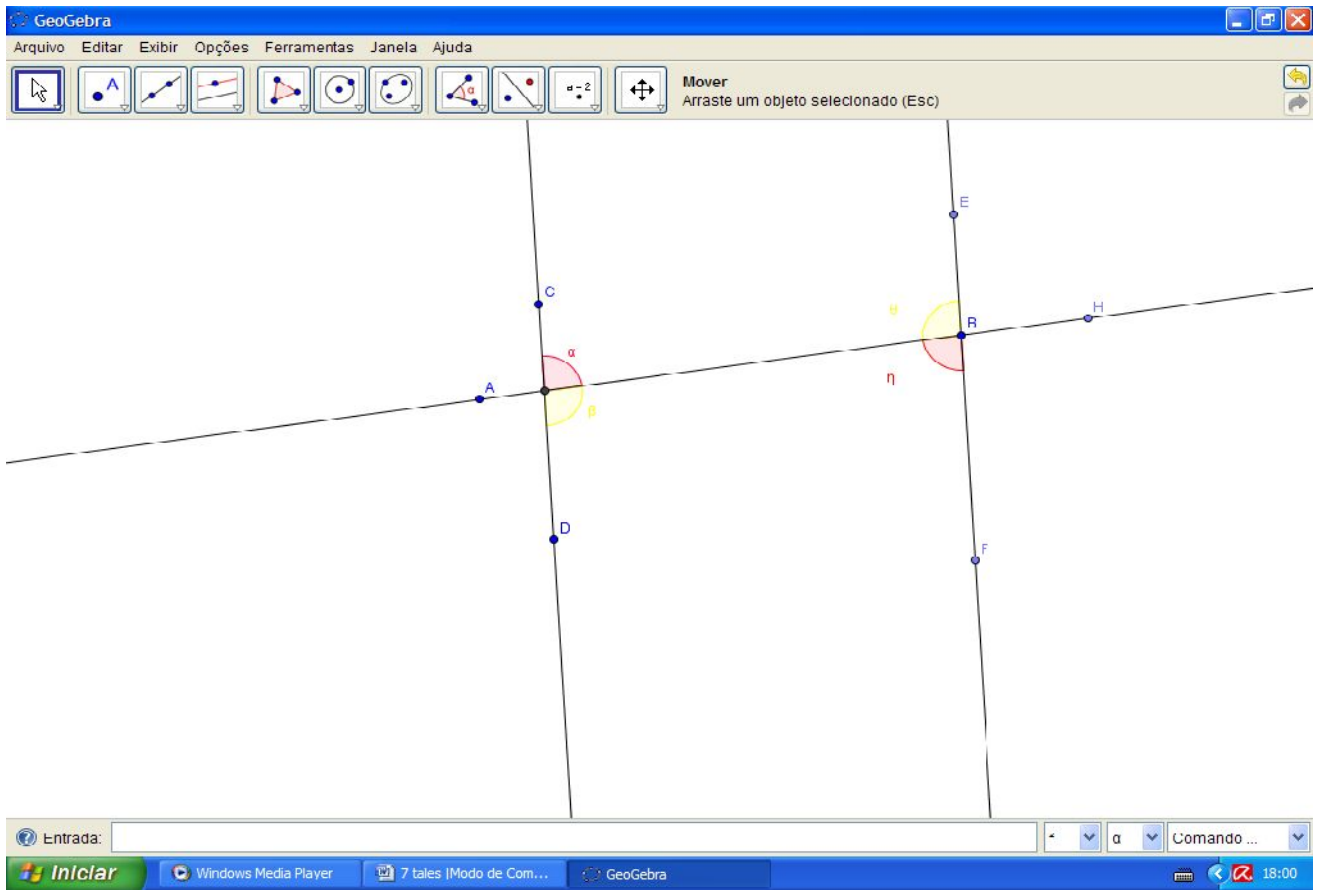
Ângulos correspondentes.



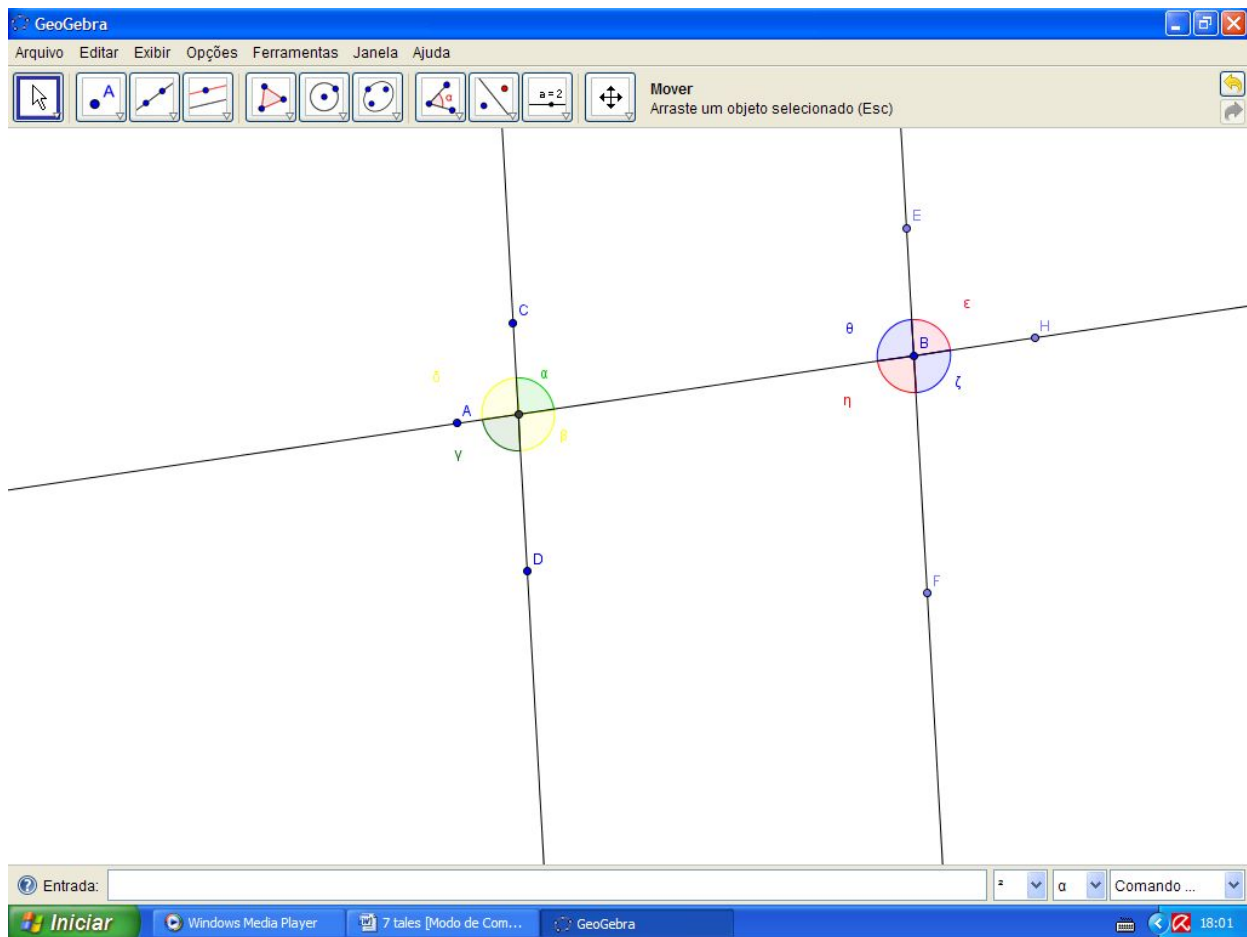
Alternos externos.



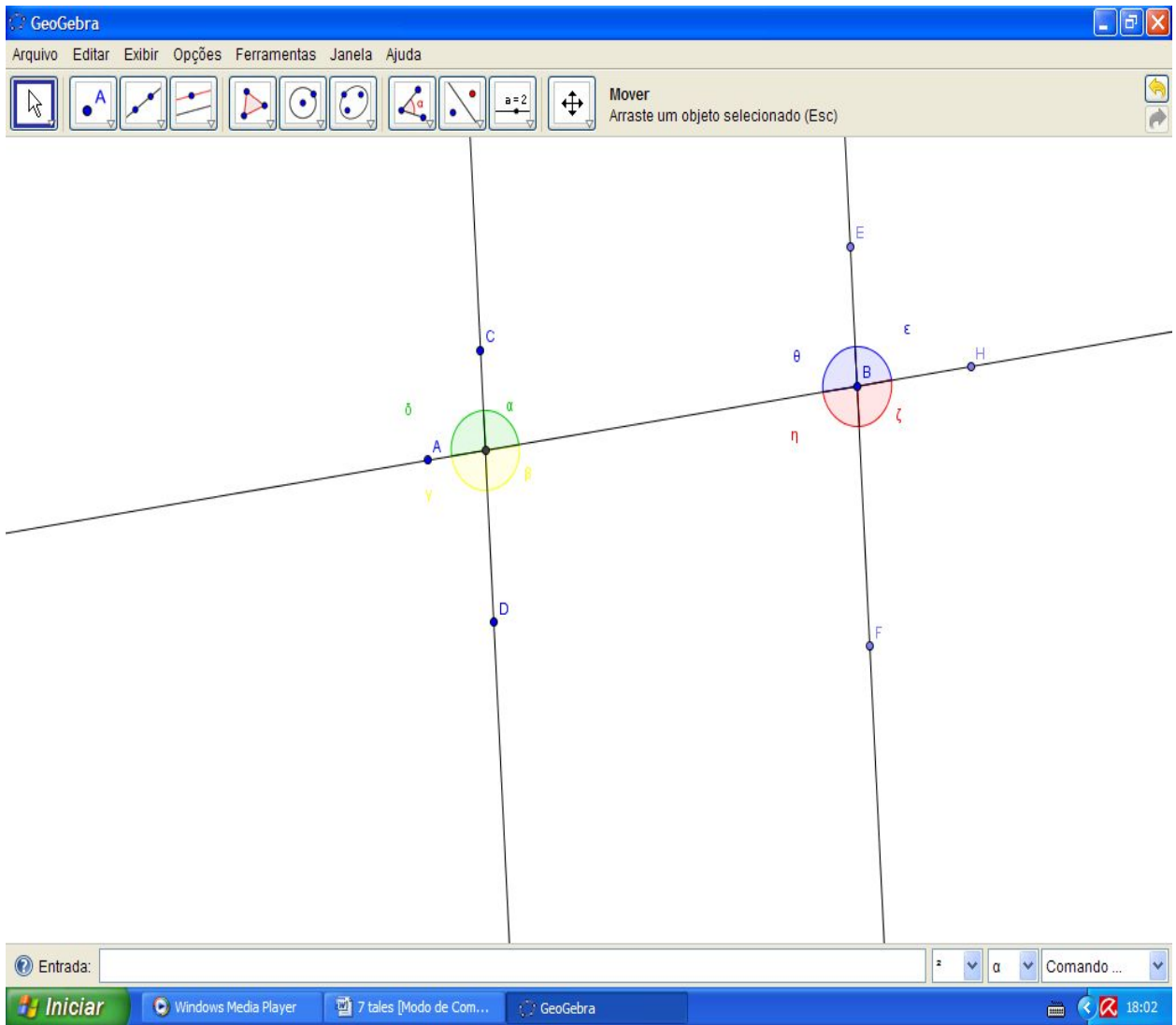
Alternos internos.



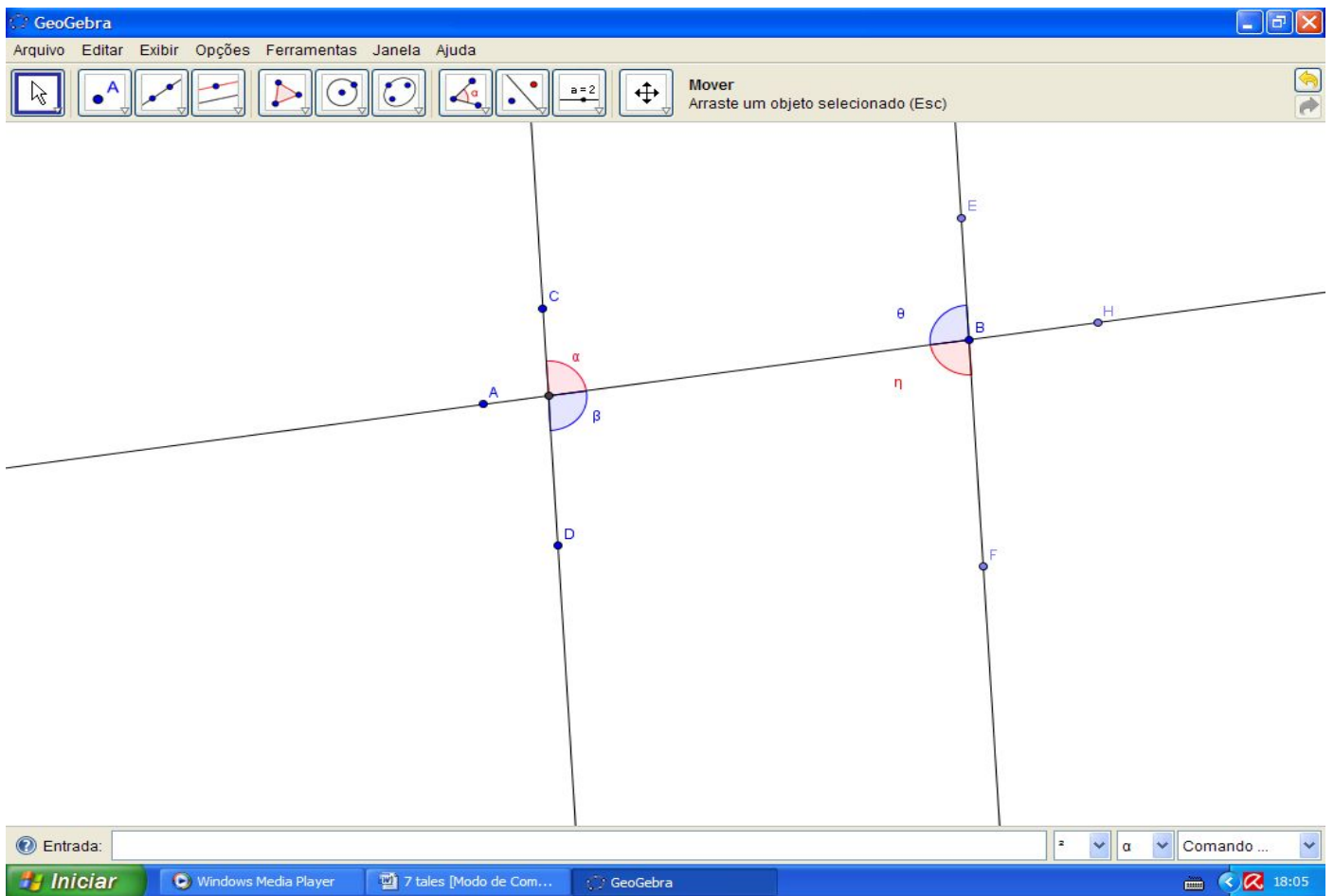
Opostos pelo vértice.



Ângulos suplementares.



Colaterais internos.



Colaterais externos.

