

Figura 1. Círculo e campos de vetores tangente e normal.

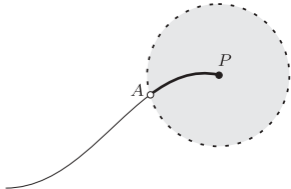
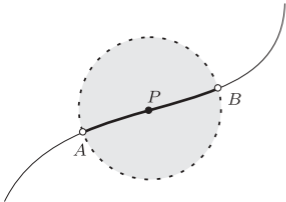


Figura 2. Topologia local de uma curva plana.

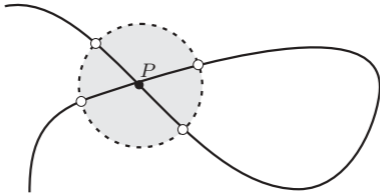


Figura 3. Subconjunto do plano que não é uma curva plana.

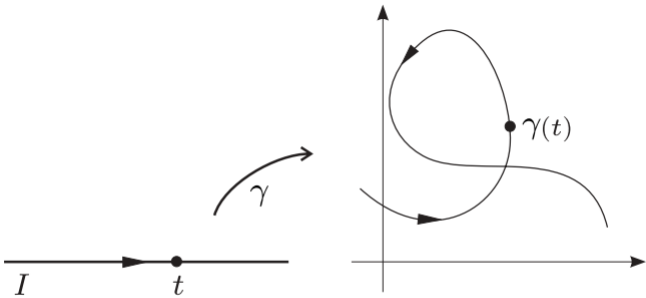


Figura 4. Descrição paramétrica de uma curva plana.

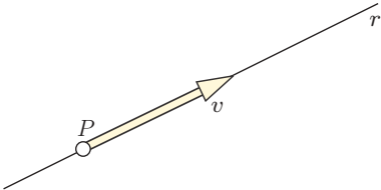


Figura 5. Reta do plano.

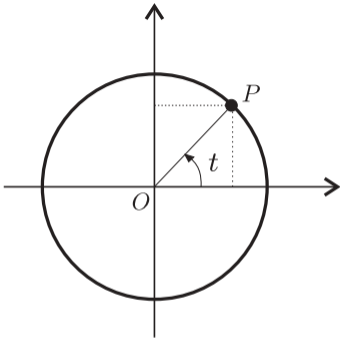


Figura 6. Círculo.

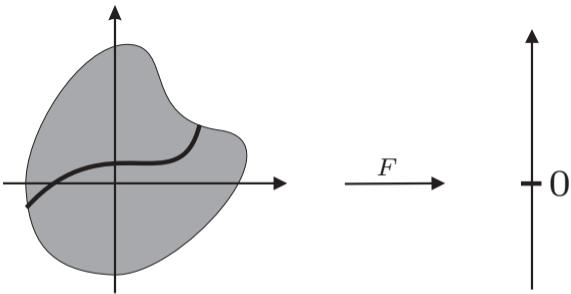
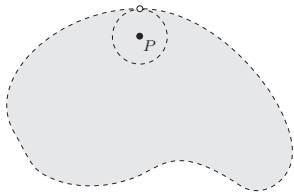
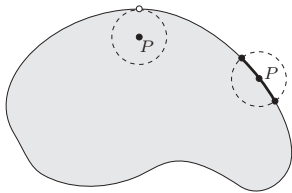


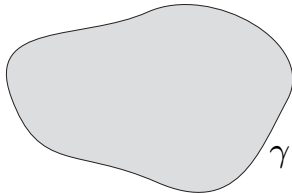
Figura 7. Descrição implícita de uma curva.



(a)



(b)



(c)

Figura 8. Região planar aberta (a); Região planar fechada (b); região planar definida por uma curva de Jordan (c).

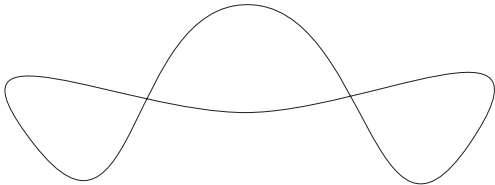


Figura 9. Quatro regiões limitadas por uma curva não-simples.

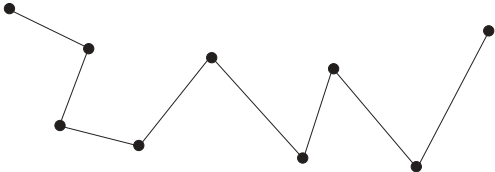
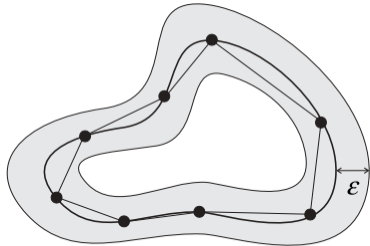


Figura 10. Curva poligonal.

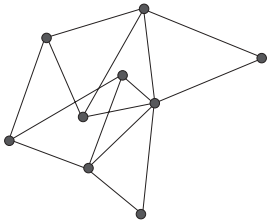


(a)

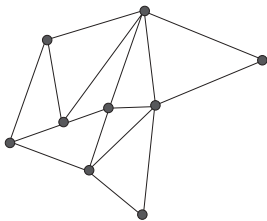


(b)

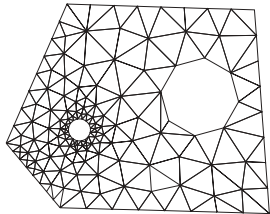
Figura 11. Aproximação de uma curva por uma poligonal (a); aproximação poligonal de uma região plana (b).



(a)



(b)



(c)

Figura 12. Não-triangulações (a) e (b); Triangulação (c).

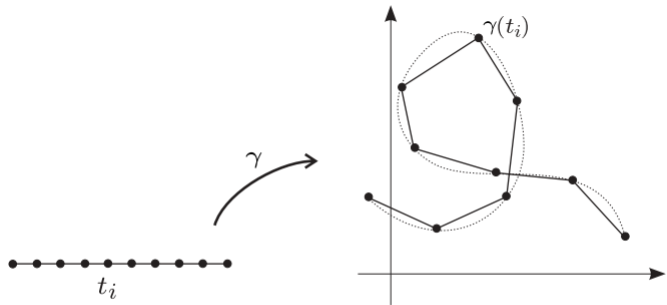
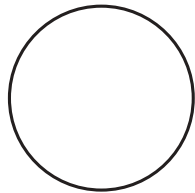
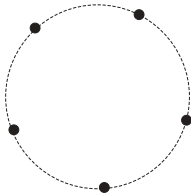


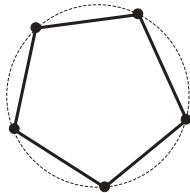
Figura 13. Aproximação poligonal de uma curva plana.



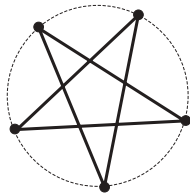
(a)



(b)

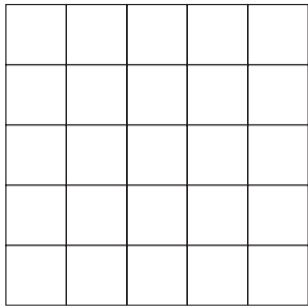


(c)

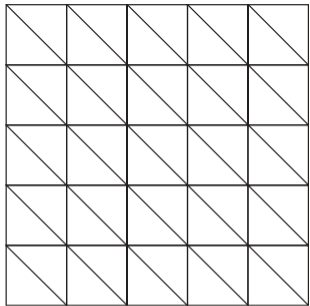


(d)

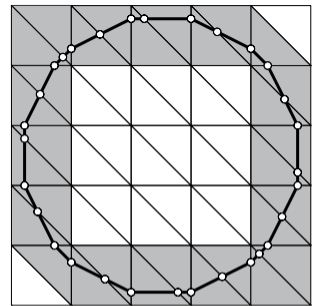
Figura 14. Amostragem pontual e reconstrução.



(a)

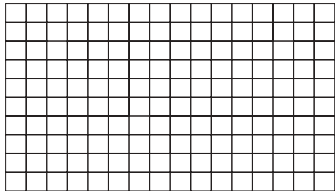


(b)

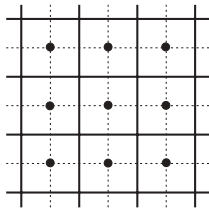


(c)

Figura 15. Reticulado (a); triangulação (b); poligonização do círculo, (c), (Cortesia de L. H. de Figueiredo).

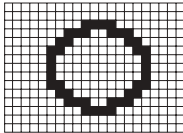
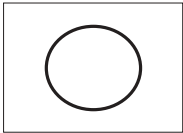


(a)

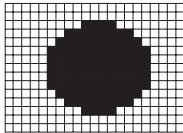
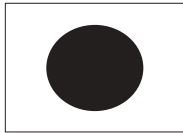


(b)

Figura 16. Reticulado uniforme do plano (a); reticulado dual (b).



(a)



(b)

Figura 17. Representação matricial de um círculo (a) e de um disco (b).

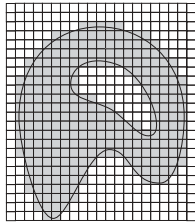
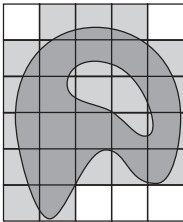
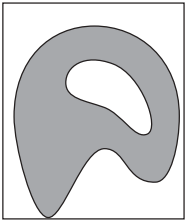


Figura 18. Representação matricial e topologia.

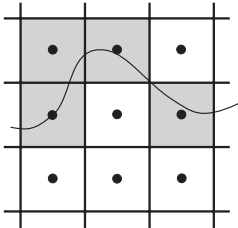
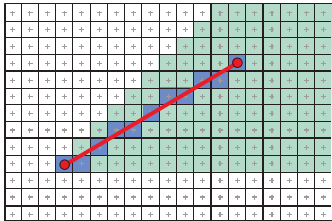
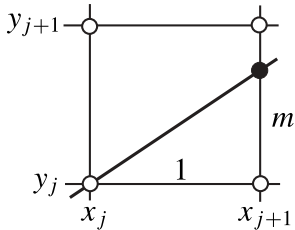


Figura 19. Escolha de células na rasterização.



(a)



(b)

Figura 20. Rasterização de um segmento (a); cálculo incremental de y (b).

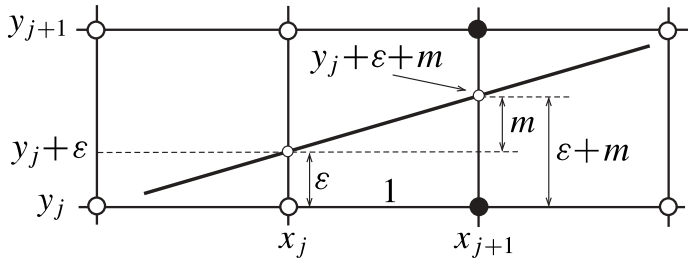


Figura 21. Cálculo incremental do erro.

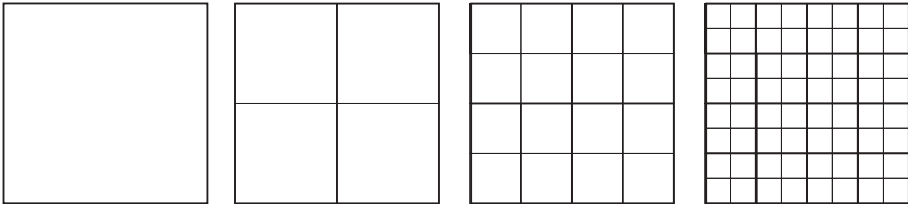


Figura 22. Subdivisão espacial.

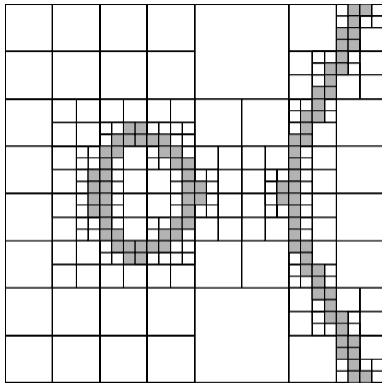


Figura 23. Rasterização por subdivisão adaptativa (Cortesia de L. H. de Figueiredo).

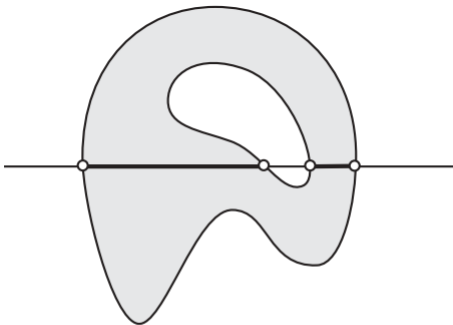


Figura 24. Rasterização de uma linha.

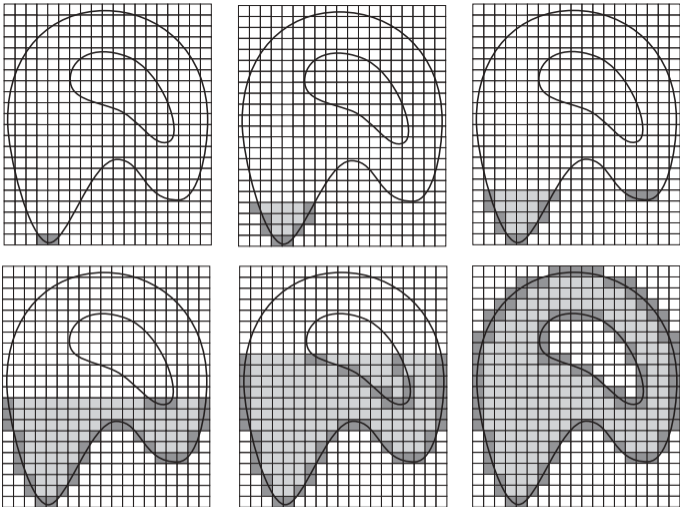


Figura 25. Rasterização de Regiões.

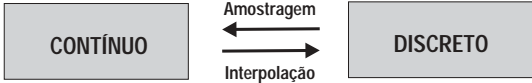


Figura 26. Discretização e Reconstrução.

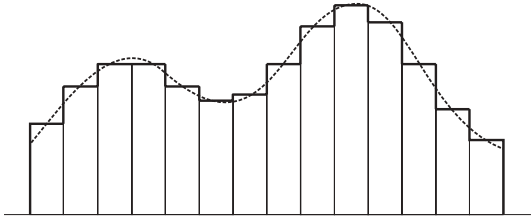


Figura 27. Representação matricial e reconstrução.

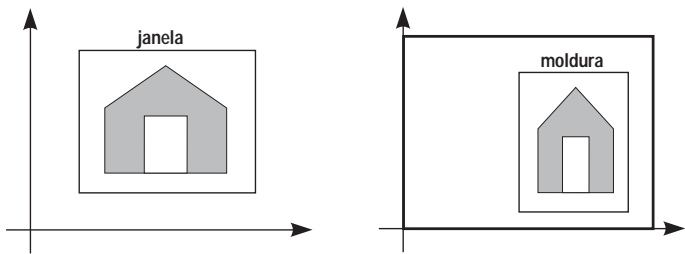


Figura 28. Dispositivos e mudança de coordenadas.

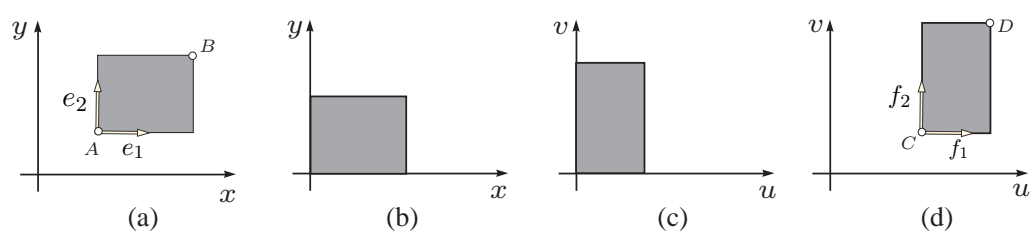
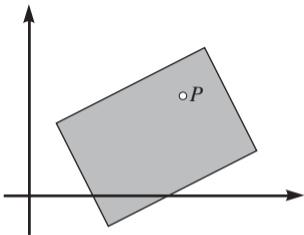
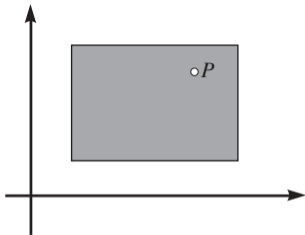


Figura 29. Transformação da janela para a moldura.



(a)



(b)

Figura 30. Recorte de um ponto em relação a um retângulo.

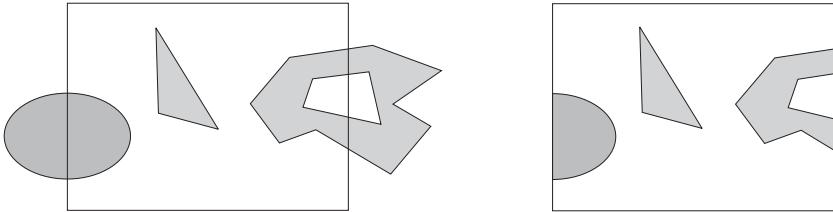


Figura 31. Recorte e compatibilidade topológica.

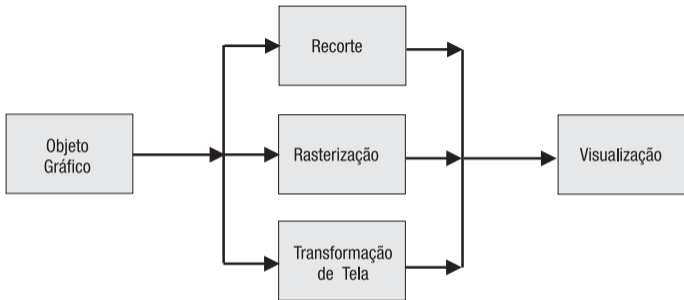


Figura 32. Operações de visualização bidimensional.