Transparency and blending review

1. Render every other pixel in a semitransparent polygon, so objects behind it are partially visible
2. only (a). (Looks worse than blending, only works well for 50% transparency, only works for one layer of transparency)
3. Discard fragments with alpha below threshold.
4. $$\begin{aligned}\mathbf{c}_o &= \alpha_s \mathbf{c}_s + (1-\alpha_s)\mathbf{c}_d \\ \mathbf{c}_d &= (0.3, 0.7, 0.1, 0.2) \\ \mathbf{c}_s &= (0.1, 0.4, 0.4, 0.3) \\ \mathbf{c}_o &= 0.3 \times (0.1, 0.4, 0.4) + 0.7 \times (0.3, 0.7, 0.1) \\ &= (0.03, 0.12, 0.12) + (0.21, 0.49, 0.07) \\ &= (0.24, 0.61, 0.19)\end{aligned}$$
5. No.
6. BSP (binary space partitioning) tree
7. Render transparent objects back to front, one layer (depth range) at a time.
8. (a), (b). Slower than screen door rendering because requires multiple rendering passes, but looks better and allows varying degrees of translucency, multiple layers of translucency.