

Consider the ray starting at $(-4, -2, -1)$ in the direction of $[1, 2, 3]$. Does it intersect the triangle with vertices:

1. $(0, 6, 7), (-3, 1, 5), (-2, 1, 4)$
2. $(-6, -5, -4), (-5, -5, -5), (-3, 0, -2)$
3. $(0, 0, 0), (2, 4, 6), (1, 0, 0)$

If there *is* an intersection point, compute its coordinates.

For the same ray, check whether it intersects spheres with:

1. radius 10 center $(0, 0, 0)$
2. radius 1 center $(-3, 0, 2)$
3. radius 2 center $(-5, -6, -7)$
4. radius 3 center $(-8, -4, -1)$

If it does, compute the coordinates of the closest intersection point.