

Heirs to ya!

No matter how you coordinate the section corners, quarter corners, intersection of quarter corners and location of original section center, you should get something like the attached sketch for bearings and distances.

And no matter how you calculate areas, you should get something like

Area A-E-J-H = 6,686,386.3 sq. ft. Area J-F-C-G = 6,692,191.8 sq. ft.

For a total of 13,378,578.1 sq. ft. for the daughters using the standard method of setting the section center, and

Area E-B-F-J = 6,518,786.7 sq. ft. Area J-G-D-H = 6,859,785.4 sq. ft. for a total of 13,378,572.1 sq. ft. for the sons using the standard method.

Area A-E-K-H = 6,861,158.2 sq. ft. and area K-F-C-G = 6,517,420.0 sq. ft. for a total of 13,378,578.2 for the daughters using the original center of section.

And area E-B-F-K = 6,524,305.0 sq. ft. and area K-G-D-H = 6,854,267.1 sq. ft. for a total of 13,378,572.1 sq. ft. for the sons using the original center of section.

(Decimal square feet shown only for demonstration purposes.)

Actually, no matter where point K is located within the quadrilateral A-B-C-D, as long as the lines drawn from K to the points on the perimeter are the midpoints, the alternate areas will sum to the same value, but not necessarily to the same sum as the other pair.

