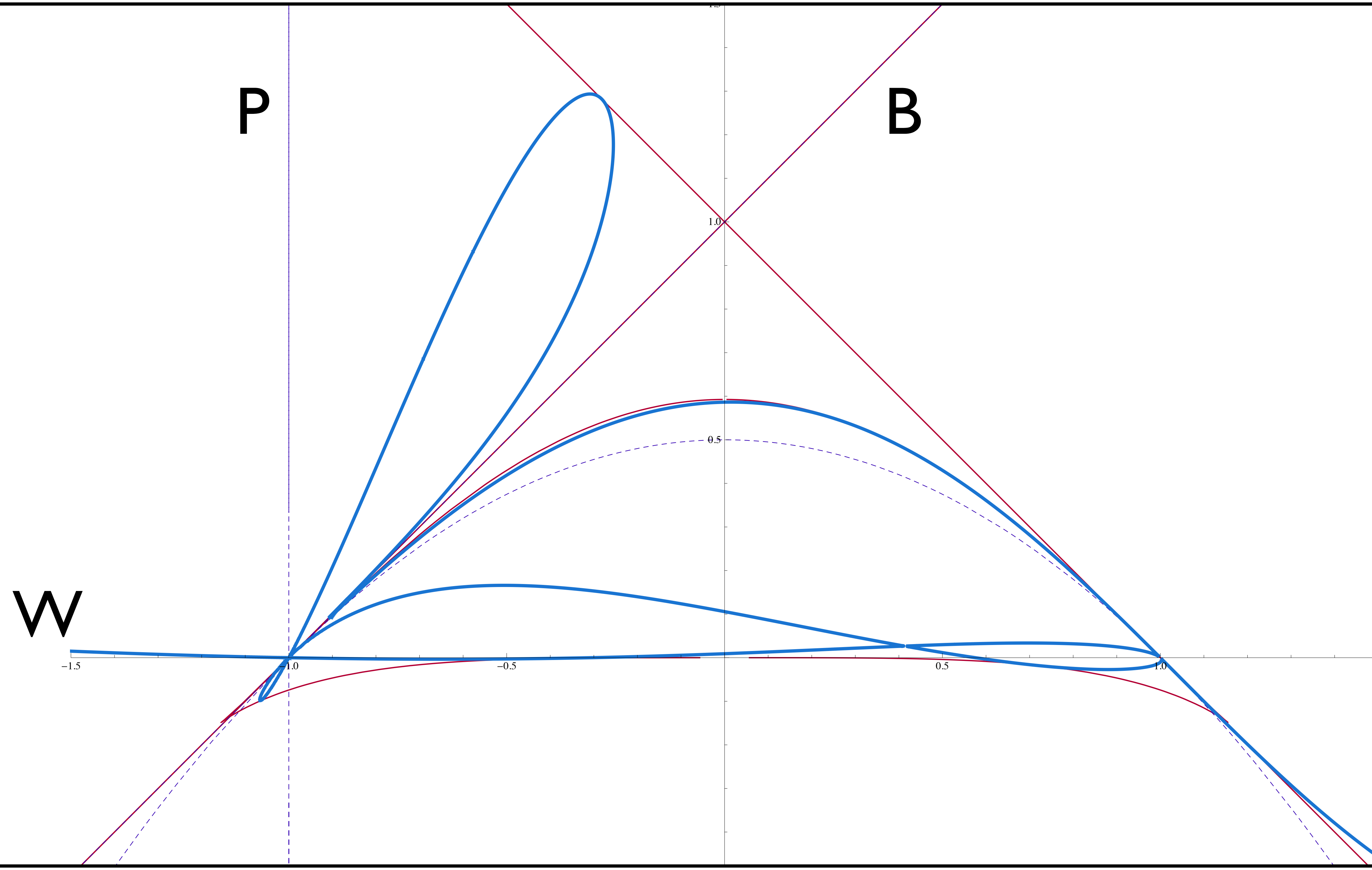
$$f_P(r,s) = (1+r)(1+r-s)\left(-1+r^2+2s\right)$$

$$f_B(r,s) = (1+r-s)(-1+r+s)\left(-r^4+r^6+18r^2s+s(-16+27s)\right)$$

$$f_W(r,s) = -8-36r+r^2+163r^3+145r^4-173r^5-261r^6+r^7+123r^8+45r^9+971s+888rs-2753r^2s-2278r^3s+2619r^4s+1492r^5s-1263r^6s-102r^7s+426r^8s-10960s^2-18284rs^2+4320r^2s^2+16256r^3s^2+4268r^4s^2+2568r^5s^2+2772r^6s^2-140r^7s^2+25616s^3+33432rs^3-3516r^2s^3-824r^3s^3+15548r^4s^3+6040r^5s^3+1000r^6s^3-19776s^4-8256rs^4+16160r^2s^4+4640r^3s^4+5488s^5$$



The Hilbert modular surface X_{44} is birational to the degree two cover of the rs-plane branched over the curve $B=V(f_B(r,s))$ (solid red). Under the map from X_{44} to the rs-plane, several components of the product locus map to $P=V(f_P(r,s))$ (dotted purple) and Jacobians with an eigenform with double zero map to $W=V(f_W(r,s))$ (thick blue).