

Draw a pedigree for the following scenario:

Hemophilia became known as the “Royal disease” after it suddenly cropped up in some of the descendants of Great Britain’s Queen Victoria and spread through the royal families of Europe. Queen Victoria and her husband Prince Albert had 9 children – 5 girls (Beatrice, Victoria, Alice, Helena, and Louise – none of whom were hemophiliacs) and 4 boys (Edward, Alfred and Arthur had normal blood clotting; their son Leopold, however was a hemophiliac). Beatrice married a man named Henry and they had four children (sons Leopold and Maurice who were hemophiliacs, daughter Eugenie who was not a hemophiliac, and another son who was also not a hemophiliac). Eugenie married Alfonso XIII of Spain (non-hemophiliac) and they had 6 children (2 normal sons, 2 normal daughters and 2 hemophiliac sons). One of those normal sons married a non-hemophiliac woman and gave birth to one son – a non-hemophiliac they named Juan Carlos (the reigning King of Spain).

**Remember that because this is an X-linked disorder, when you identify genotypes in this pedigree, you must use the XX/XY notation and use superscripts with each X chromosome to indicate whether the “H” (normal) or “h” (hemophilia) allele is present. (Ex.  $X^HY$  = normal male)**