IB PreHL Hyperbolas Graph to Equation Practice Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For each problem write the equation of the hyperbola unless the directions indicate otherwise.

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| 1. |  | | | | 2. |  | | |
| 3. |  | | | | 4. |  | | |
| 5. |  | | | | 6. |  | | |
| 7. | A hyperbola has foci at  (0,9) and  (0,-9) and contains point P. The distance between P and F is 6 units greater than the distance between P and . | | | | 8. | Vertices: (-1,9) and (-1,3)  Asymptotes: | | |
| 9. | Vertices: (-3,-12) and (-3,-4)  Foci: (-3,-15) and (-3,-1) | | | | 10. | Vertices (0,-3) and (-4,-3)  Conjugate axis length of 12 units. | | |
| 11. | The eccentricity is and the foci are (-1,-2) and (13,-2) | | | | 12. | The center is at (5,1) and an equation of an asymptote is | | |
| 13. | If a=b in a hyperbola prove that the eccentricity is | | | | | | | |
| 14. | On the same graph sketch the following conic sections then, solve the system of equations and show where the conic sections intersect.  and | | | | | | | |
| 15. | Determine the Eccentricity of the following: | | | | | | | |
|  | a. |  | b. |  | | | c. |  |

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