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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