

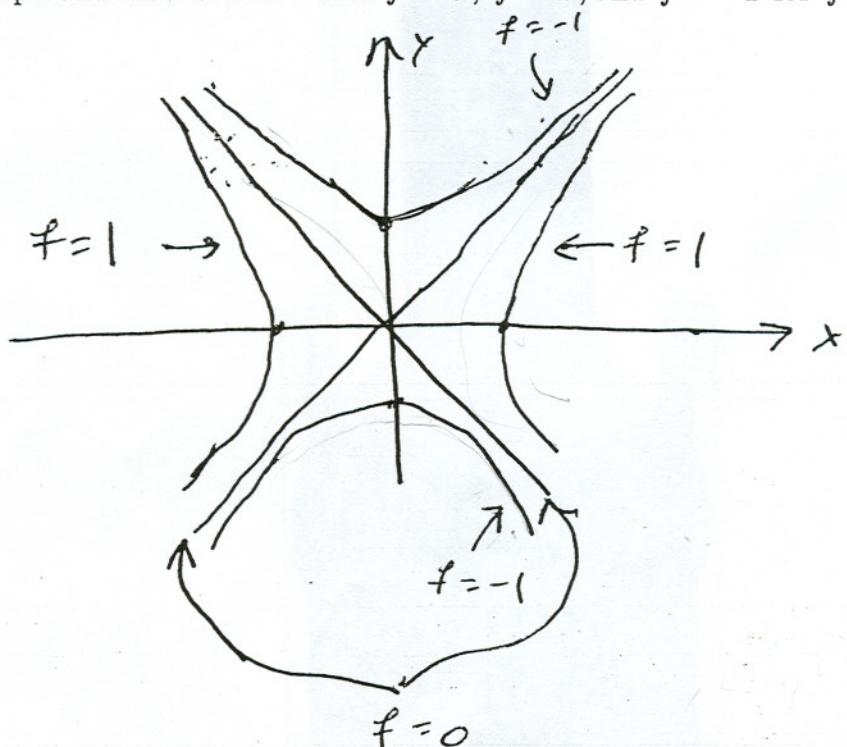
9. Find the equations of any line which intersects and is perpendicular to $\frac{x-2}{3} = \frac{y-5}{2} = \frac{z-4}{5}$. Be sure to tell me where your line intersects my line.

The line through $(2, 5, 4)$ which is \parallel to $2\vec{i} - 3\vec{j}$

$$\begin{aligned}x-2 &= 2t \\y-5 &= -3t \\z-4 &= 0\end{aligned}$$

Note: There are infinitely many correct answers.

10. Graph and label the level sets $f = 0$, $f = 1$, and $f = -1$ for $f(x, y) = x^2 - y^2$.



$$f = 0 : x = y, x = -y$$

$$f = 1 \text{ hyperbola } 1 = x^2 - y^2$$

$$f = -1 \text{ hyperbola } 1 = y^2 - x^2$$