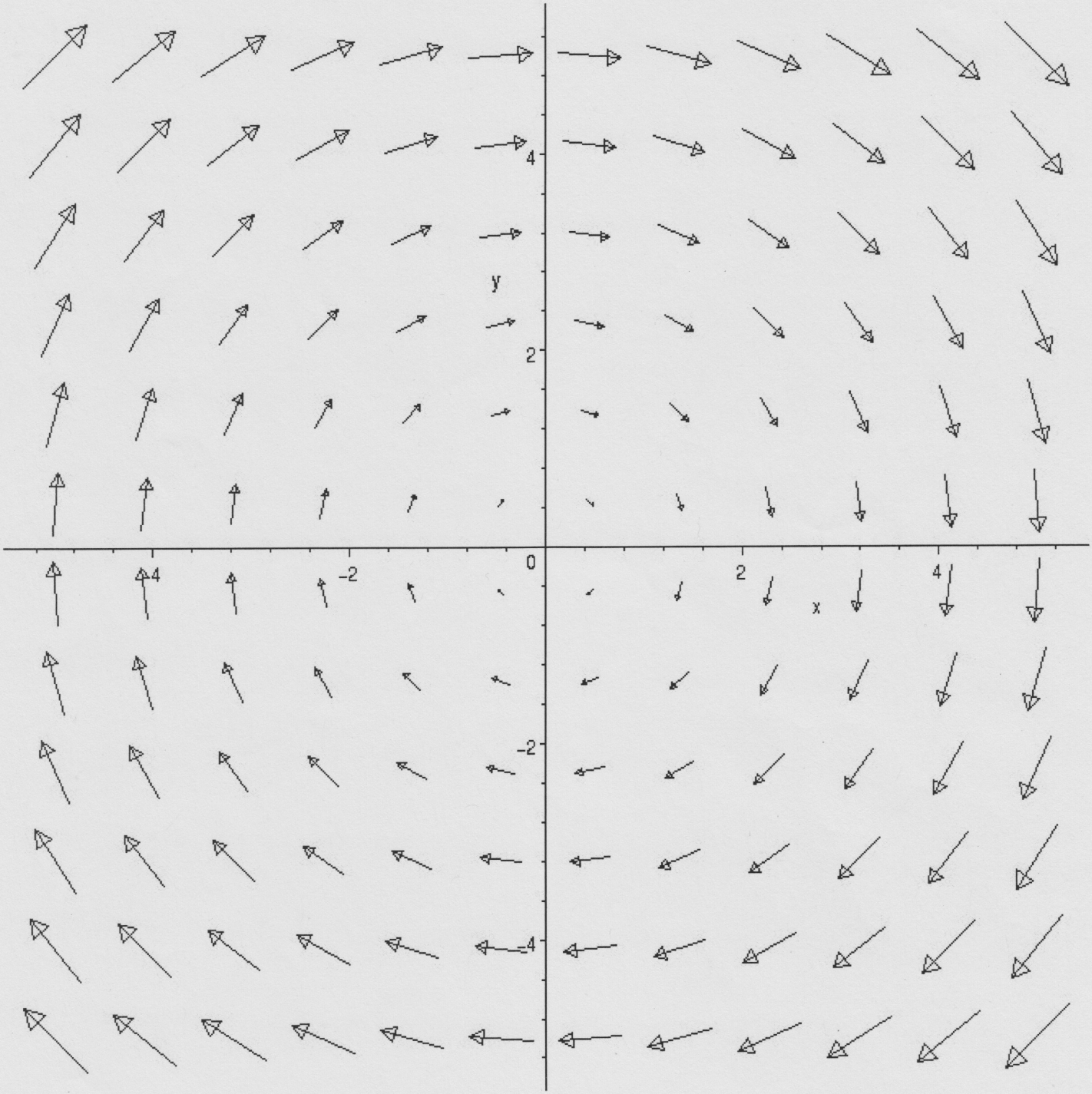
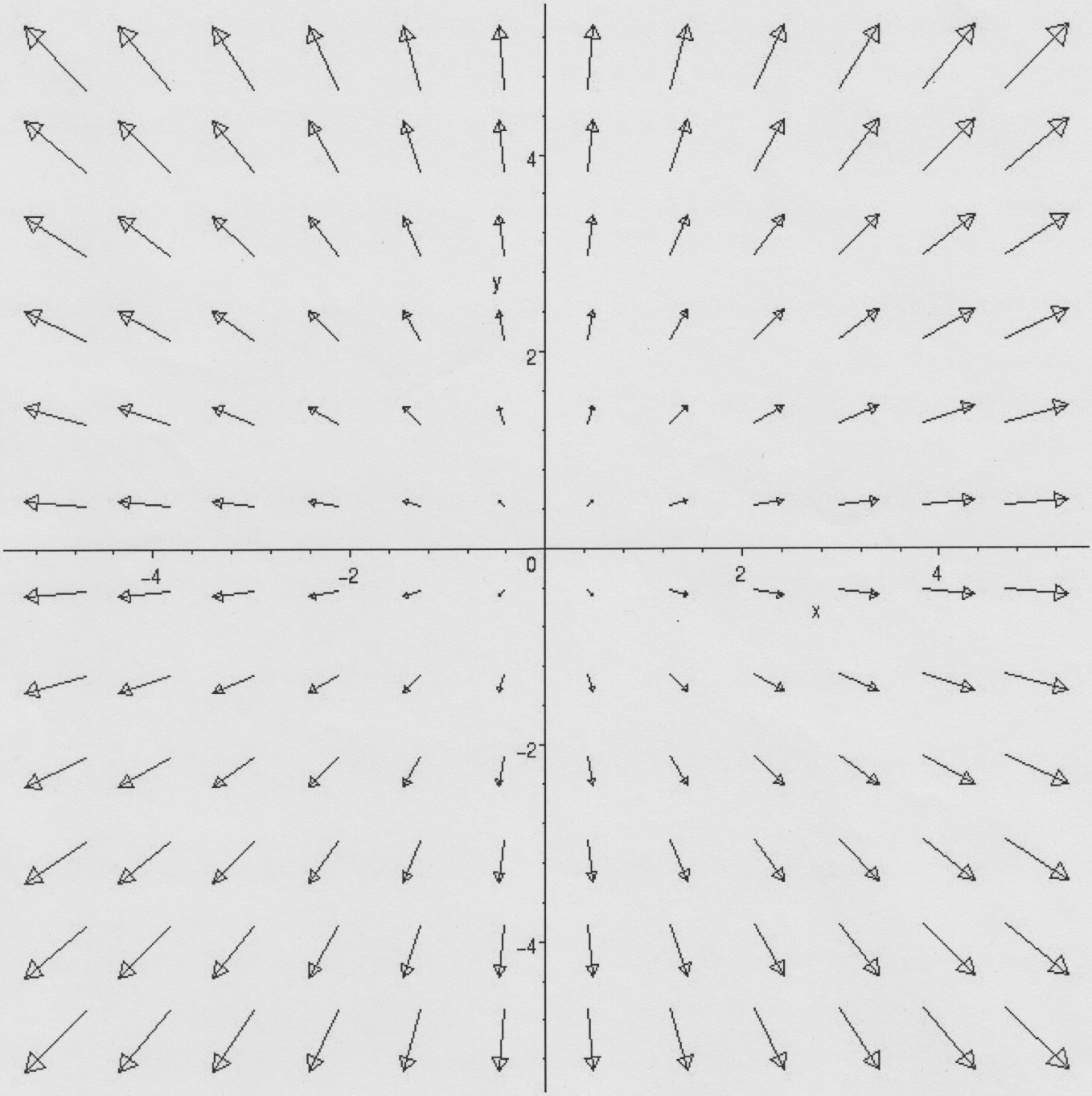
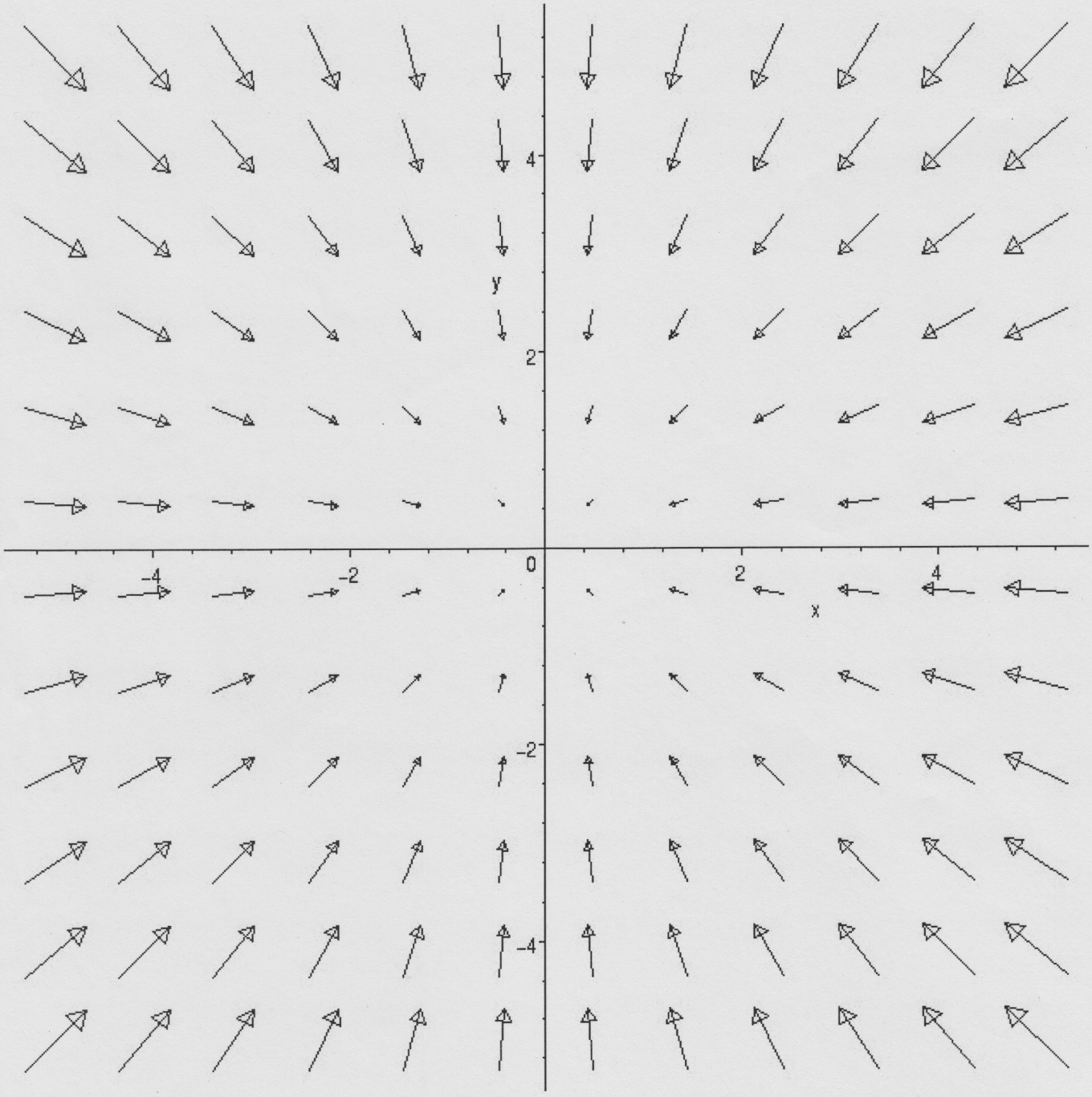
$f(x,y) = (y, -x)$



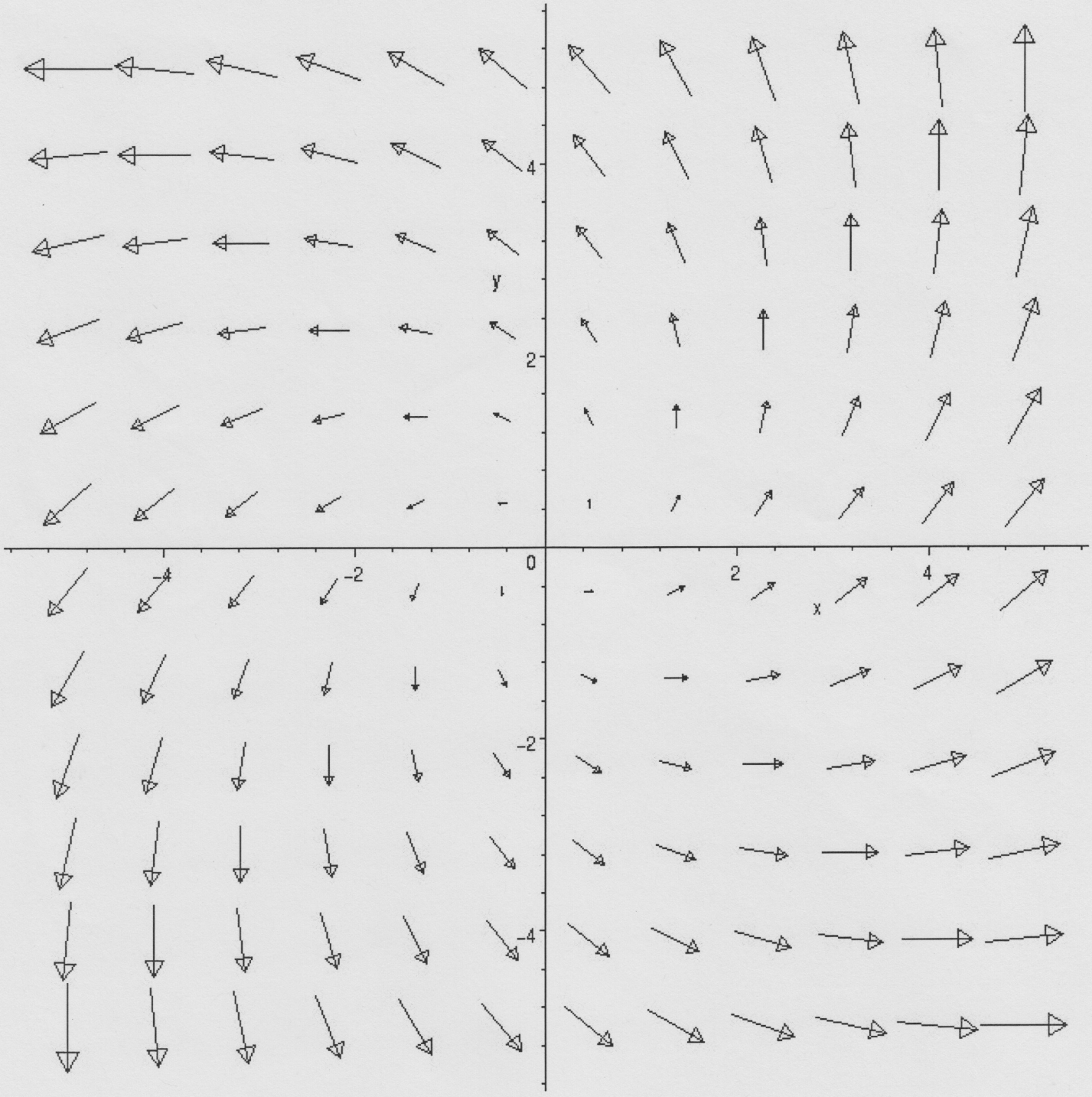
$f(x,y) = (x,y)$



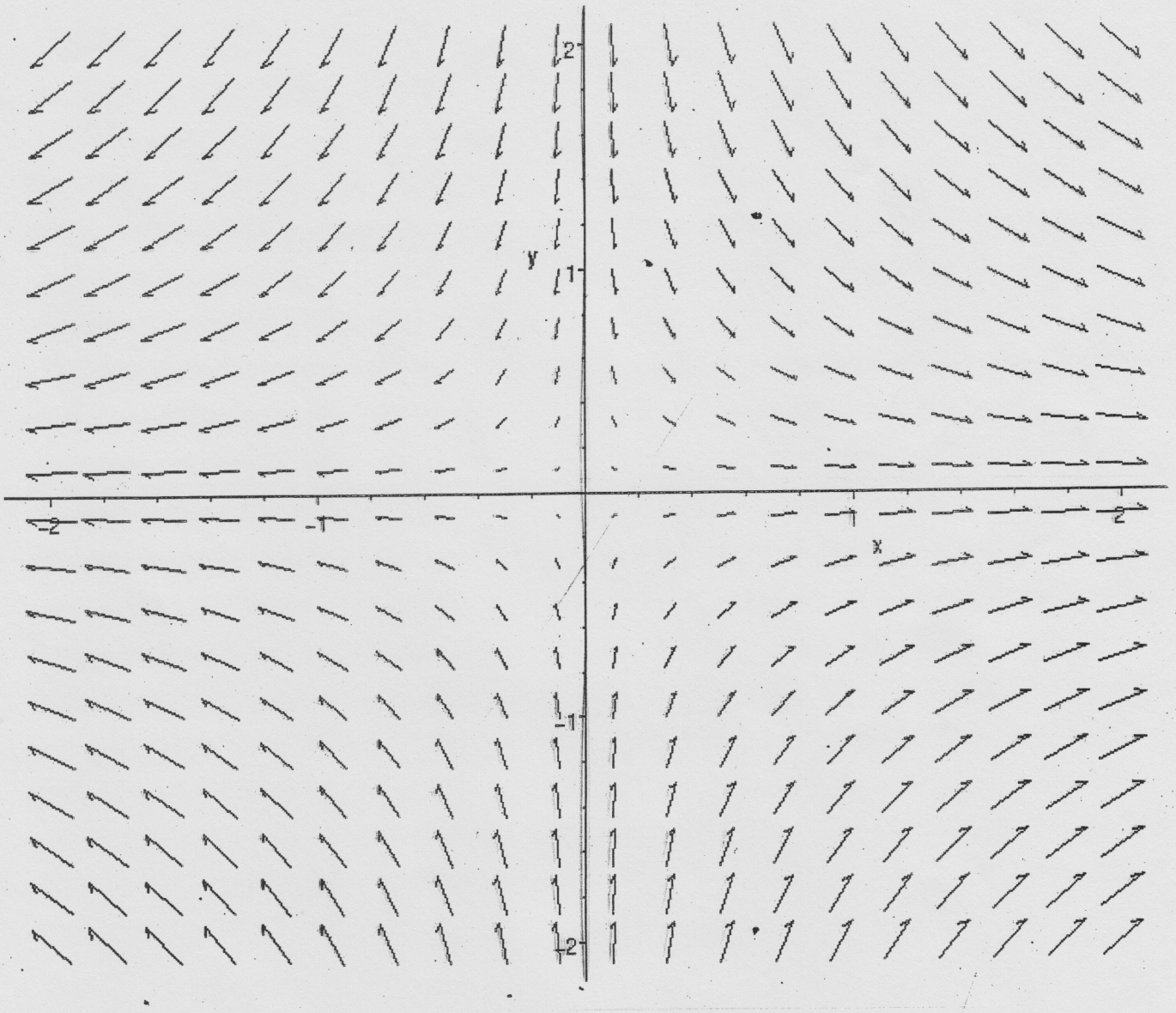
$f(x,y) = (-x,-y)$



$$f(x,y) = (x-y,\ x+y)$$



$$F(x,y) = \left(\frac{x}{\sqrt{x^2+y^2+4}}, \frac{-y}{\sqrt{x^2+y^2+4}} \right)$$



11–14 ▪ Match the vector fields $\mathbf{F}$ with the plots labeled I–IV.

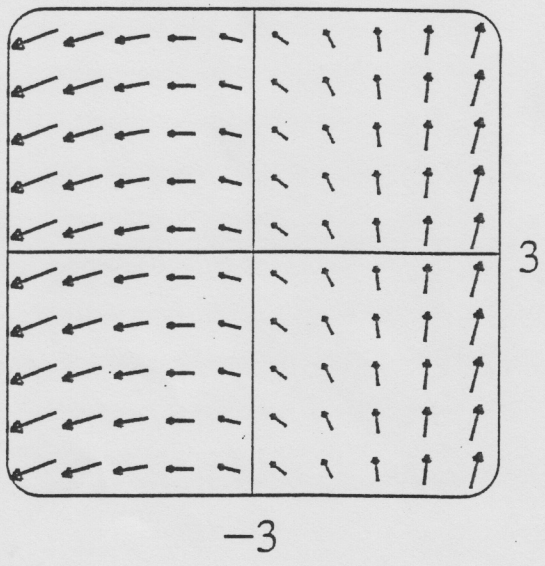
11. $\mathbf{F}(x, y) = \langle y, x \rangle$

12. $\mathbf{F}(x, y) = \langle 1, \sin y \rangle$

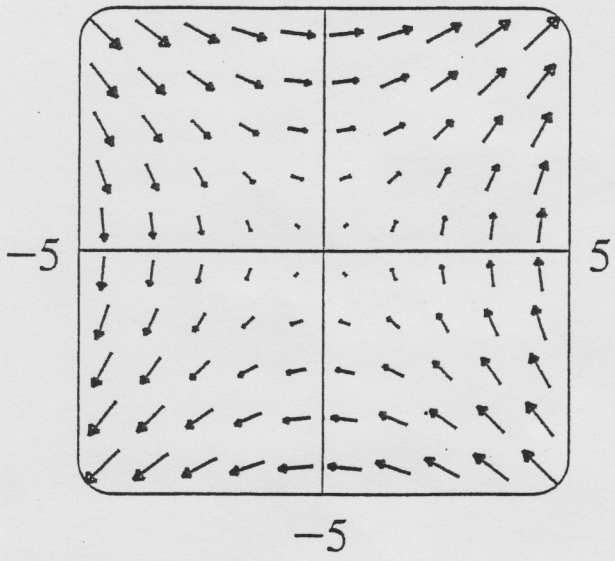
13. $\mathbf{F}(x, y) = \langle x - 2, x + 1 \rangle$

14. $\mathbf{F}(x, y) = \langle y, 1/x \rangle$

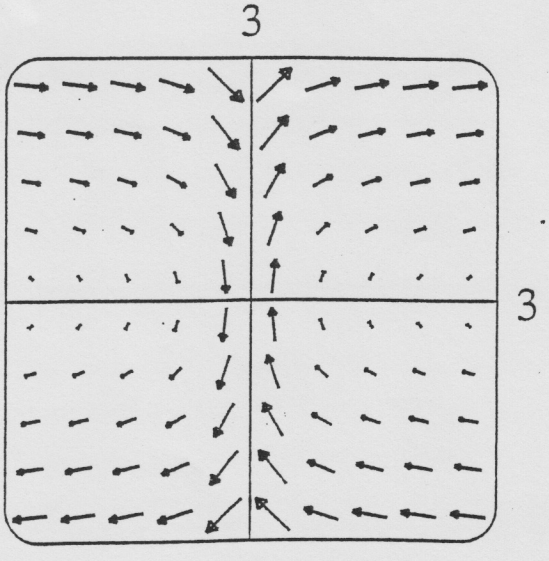
I



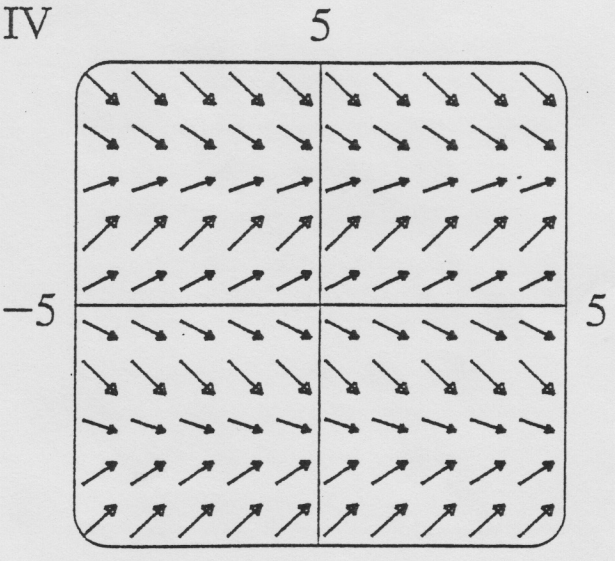
II



III



IV



Match the vector fields $\mathbf{F}$ on $\mathbb{R}^3$ with the plots labeled I–IV.

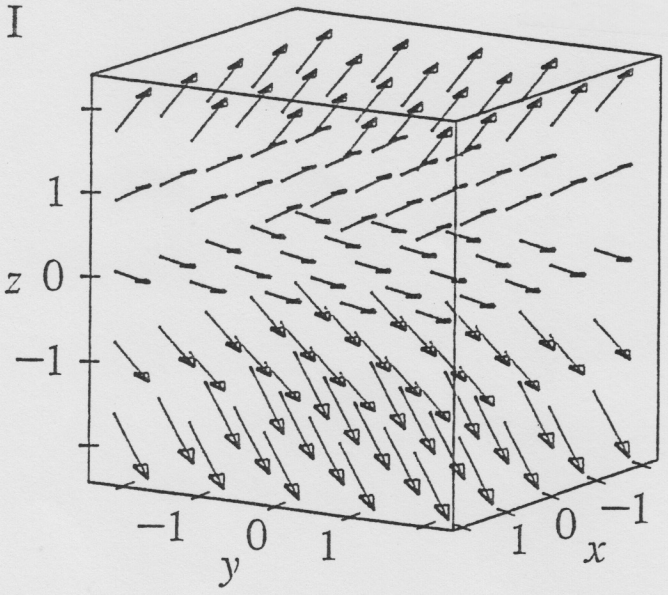
15. $\mathbf{F}(x, y, z) = \mathbf{i} + 2\,\mathbf{j} + 3\,\mathbf{k}$

16. $\mathbf{F}(x, y, z) = \mathbf{i} + 2\,\mathbf{j} + z\,\mathbf{k}$

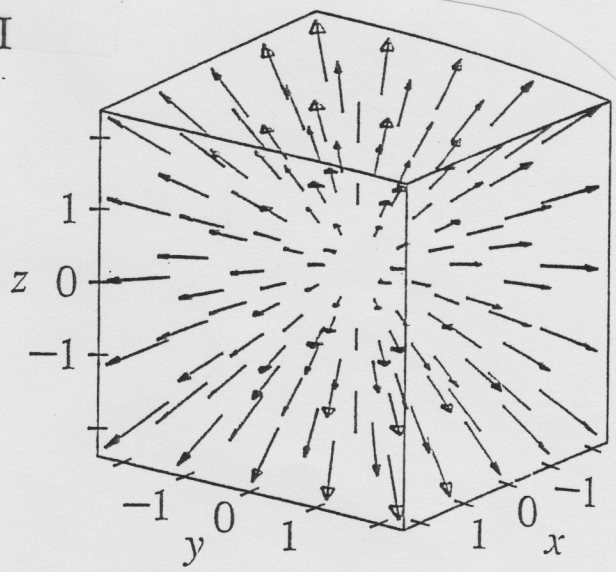
17. $\mathbf{F}(x, y, z) = x\,\mathbf{i} + y\,\mathbf{j} + 3\,\mathbf{k}$

18. $\mathbf{F}(x, y, z) = x\,\mathbf{i} + y\,\mathbf{j} + z\,\mathbf{k}$

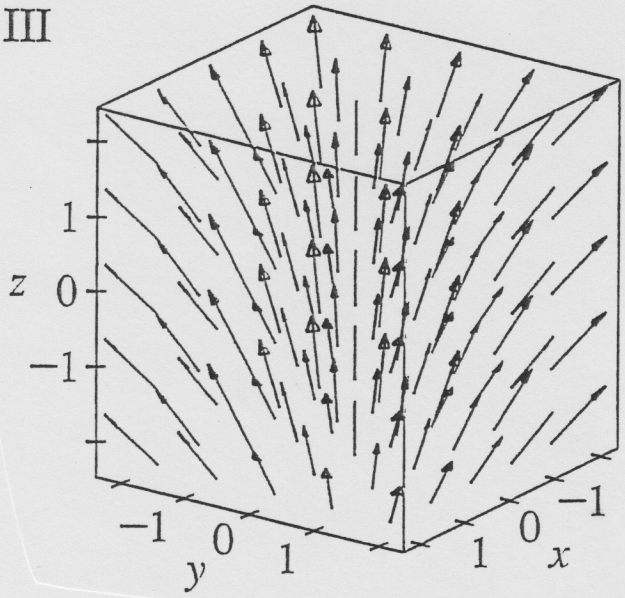
I



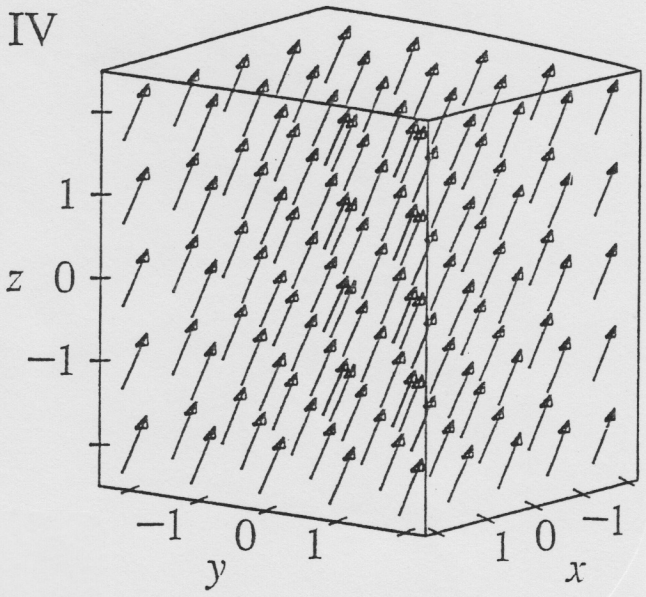
II



III



IV



Match the vector fields $\mathbf{F}$ on $\mathbb{R}^3$ with the plots labeled I–IV.

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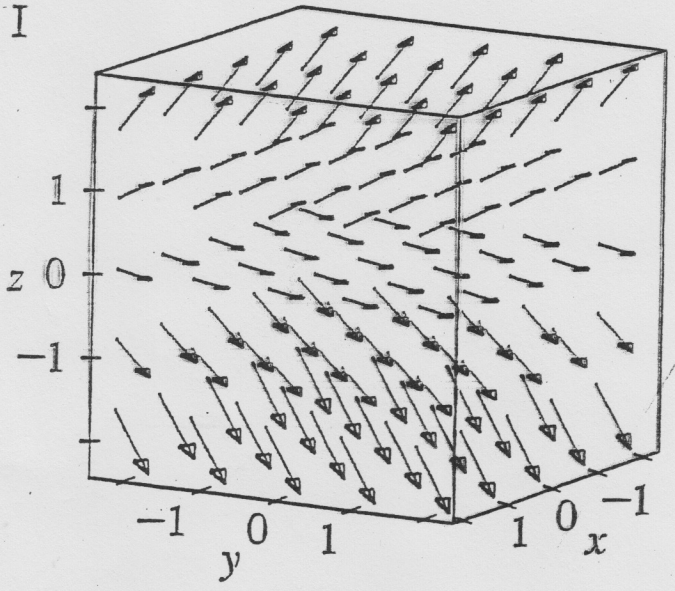
16. $\mathbf{F}(x, y, z) = \mathbf{i} + 2\,\mathbf{j} + z\,\mathbf{k}$

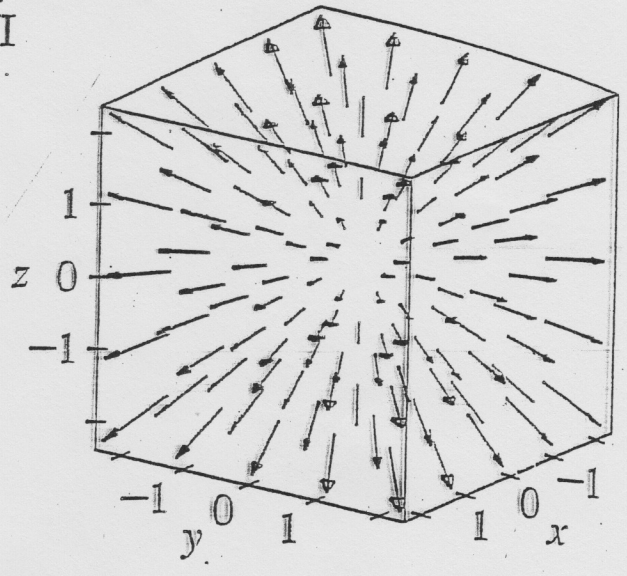
17. $\mathbf{F}(x, y, z) = x\,\mathbf{i} + y\,\mathbf{j} + 3\,\mathbf{k}$

18. $\mathbf{F}(x, y, z) = x\,\mathbf{i} + y\,\mathbf{j} + z\,\mathbf{k}$

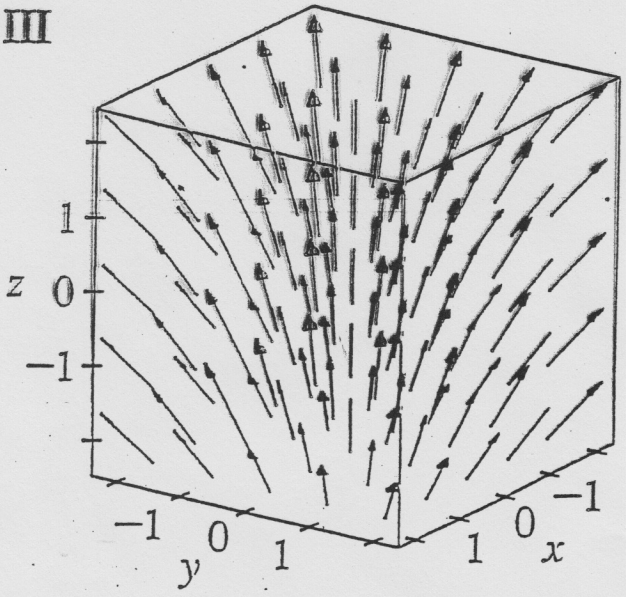
I



II



III



IV