# ■ Vector Fields

```
<< Graphics`
```
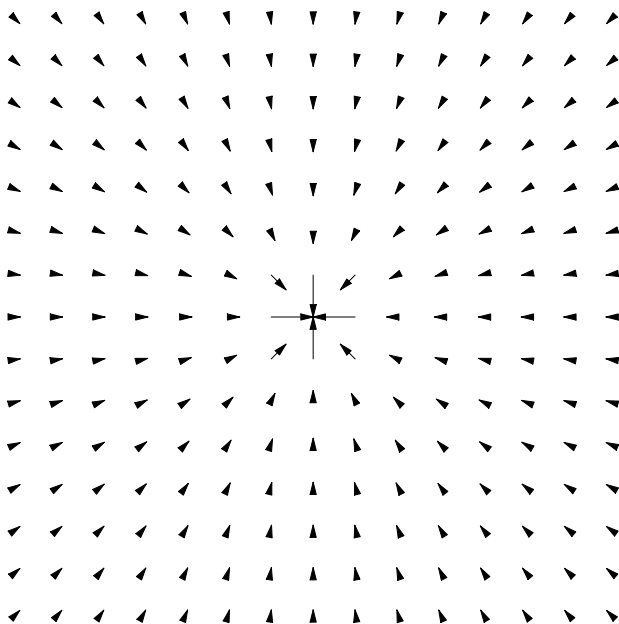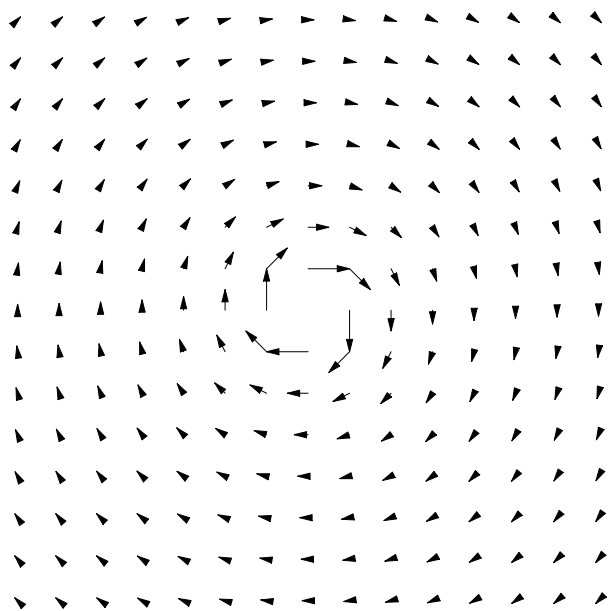
**Example.** The gravitational vector field (thanks to sir Isaac; here is a 2D–picture):

```
PlotVectorField[{-x / (x^2 + y^2) ^ (3 / 2), -y / (x^2 + y^2) ^ (3 / 2)}, {x, -1, 1}, {y, -1, 1}]
```

**Example.** The rotary vector field (gives the 2D–modelthe velocity flow of water around a sink):
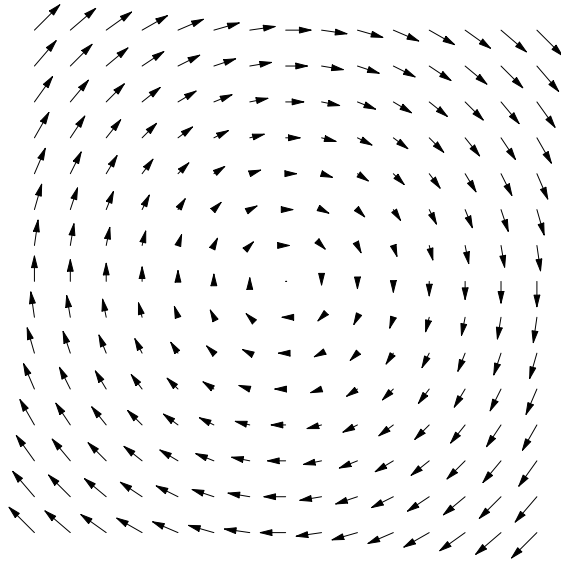
```
PlotVectorField[{y / (x^2 + y^2), -x / (x^2 + y^2)}, {x, -1, 1}, {y, -1, 1}]
```

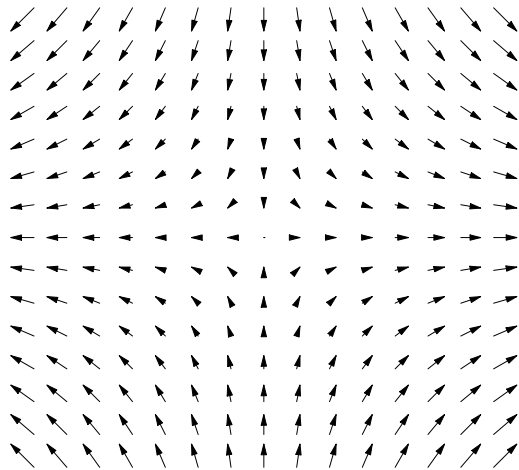■ **Vector fields for some of the homework problems**

```
PlotVectorField[{y, -x}, {x, -2, 2}, {y, -2, 2}, PlotLabel -> "Problem 9, p.248"]
```

Problem 9, p.248



```
PlotVectorField[{x, -y}, {x, -2, 2}, {y, -2, 2}, PlotLabel -> "Problem 10, p.248"]
```

Problem 10, p.248

**PlotVectorField[{x, x^2}, {x, -2, 2}, {y, -2, 2}, PlotLabel -> "Problem 11, p.248"]**

Problem 11, p.248