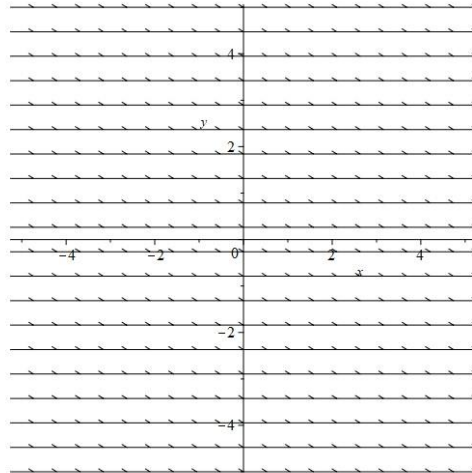


# 16.1

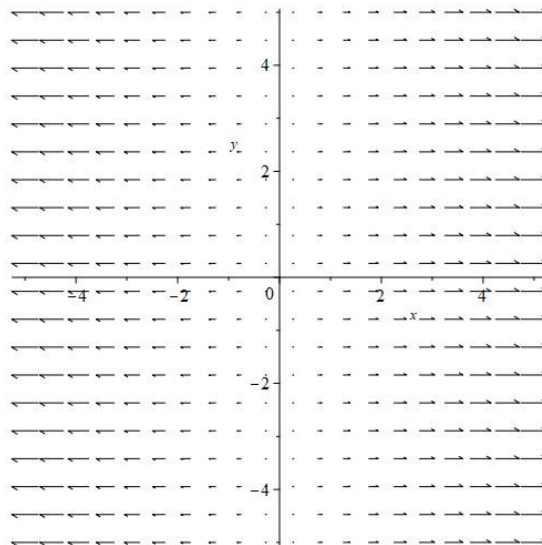
1.  $F(1,2) = \langle 1,1 \rangle$   $F(-1,-1) = \langle 1,-1 \rangle$
3.  $F(0,1,1) = \langle 0,1,0 \rangle$   $F(2,1,0) = \langle 2,0,2 \rangle$
- 5.

```
with(plots):  
fieldplot([1, 0], x=-5..5, y=-5..5)
```



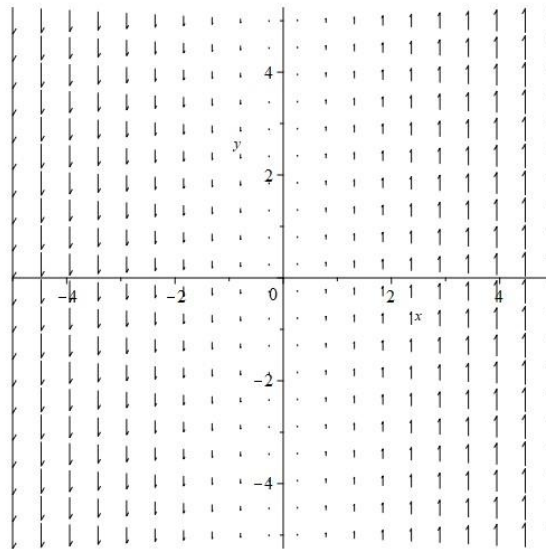
- 7.

```
with(plots):  
fieldplot([x, 0], x=-5..5, y=-5..5)
```



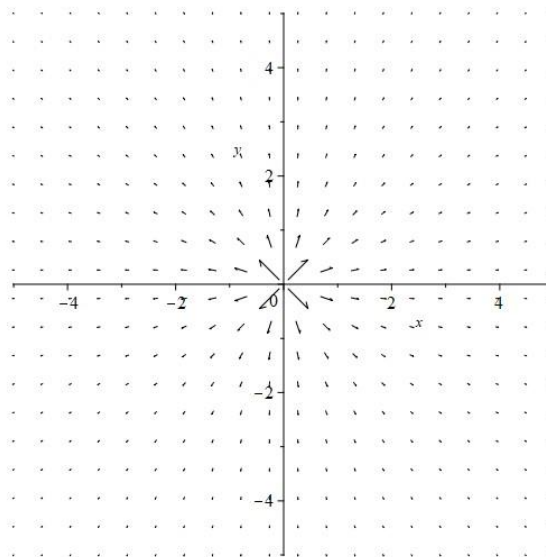
- 9.

```
with(plots):
  fieldplot([0, x], x=-5..5, y=-5..5)
```



11.

```
with(plots):
  fieldplot([x/(x^2+y^2), y/(x^2+y^2)], x=-5..5, y=-5..5)
```



17. C

$$23. \operatorname{div}(F) = y + z \quad \operatorname{curl}(F) = \langle y, 3x^2, -x \rangle$$

$$25. \operatorname{div}(F) = 1 - 4zx - x + 2zx^2, \operatorname{curl}(F) = \langle -1, 2xz^2 - 2x^2, -y \rangle$$

$$27. \operatorname{div}(F) = 0, \operatorname{curl}(F) = \langle 1 - 3z^2, 1 - 2x, 1 + 2y \rangle$$