October 25
Examples of flows.
Ex: Lt
L L
$\Theta: \mathbb{R} \times \mathbb{R}^2 \longrightarrow \mathbb{R}$
$\frac{\left(t;x,y\right)}{\left(x+t,y\right)}.$
For too Q: R2 - R2 translates
the plane to the right. This is
the global flow corresponding to the
retar fult
2~C
in the same that for every (a, b) ER
the corre
$\Theta(a,b): R \to R^2$

Ex: Consider the flow 8: R × R² — R² (t; x,y/+) (x oust - y sint, x sint + y con This is the flow corresponding to the V-f: V= x 3y - y 37 There examples were special since they were "global" flows. Not emy uf. is the infinitesimal semadar of a	is an integral cure for V.
(t; x,y/+) (x ost - y sint, x sint + y co) This is the flow corresponding to the Vif: V = x = y - y = n There examples were special since they were "global" flows. Not every uf. is the infinitesimal permater of a	Et: Consider the flow
(xost-ysint, xsint+yw) This is the flow corresponding to the Vifi V = x = y = y = x There examples were special since thy were "global" flows. Not emy vf. is the infinitesimal generator of a	
This is the flow corresponding to the Vificulty of a special since the Theore examples were special since they were "global" flows. Not every uf. is the infinitesimal generator of a	(t; x, y/1-)
There examples were special since they were "global" flows. Not every of. is the infinitesimal generator of a	(nost - y sint, x sint + y w)
There examples were special since they were "global" flows. Not eny uf. is the infinitesimal generator of a	
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	There examples were special since they
	ver "global" flows. Not evry uf.
	is the infinitesimal pennatur of a
global flow.	global flow.

Ex : Let
$$V = \pi^{2} \stackrel{?}{=} \in Vect(\mathbb{R}^{2})$$

If $\chi(t) = (\chi(t), \chi(t))$ is an integral when

 $\chi'(t) = \chi(t)^{2}$

=) $\chi(t) = \frac{1}{1-t} + \alpha$
 $\chi'(t) = \frac{1}{1-t}$

for another (α, b) . In parkeular, the integral were passing through $(1, 0)$ at $t = 0$ is

 $\chi'(t) = \left(\frac{1}{1-t}, 0\right)$.

Const be defined for all $t \stackrel{?}{=} \cdot \cdot$

