## hoin group: time/Noudist CLICK TO DOWNLOAD MORE TMA PQ

direction of $\backslash(v \backslash)$ given by $\backslash(L=\{x+\backslash a l p h a v$ : \alpha \epsilon $R \backslash)$ is a $\qquad$ convex set
[MTH412] Any linear subspace $\backslash(M \backslash)$ of $\backslash\left(R^{\wedge}\{n\} \backslash\right)$ is a convex set since linear subspaces are $\qquad$ under addition and scalar multiplication.
closed
[MTH412] Any linear subspace $\backslash(M \backslash)$ of $\backslash\left(R^{\wedge}\{n\} \backslash\right)$ is a convex set since linear subspaces
are $\qquad$ under addition and scalar multiplication.
open
[MTH412] Let $\backslash(p \backslash l e q 1 \backslash)$ be a fixed real number. Each element in the space $\backslash\left(I \_\{p\} \backslash\right)$ is a sequence, $\backslash\left(x=\left(x \_\{1\}, x \_\{2\}, \ldots, x \_\{k\}, \ldots\right)\right.$ of real numbers that converge then, <br>(sum_\{k=1\}^\{\infty\} |x_\{k\}|_\{p\}<br>) $\qquad$ n
$\backslash(<\operatorname{linfty} \backslash)$
[MTH412] <br>(a kltimes k_\{2\}\leq kltimes k_\{1\}<br>)
vector space
[MTH412] Let $X$ be a linear space and $\backslash(x, y$ lepsilon $X \backslash)$. The line segment $[x, y$ ] joining $x$ and $y$ is define by $[x, y]=$ $\qquad$
$\backslash(\{$ lambda $x+(1-$-lambda $) \overline{:} \overline{0}$ Veq Vambda \leq 1$\} \backslash)$
[MTH412] Let $X$ be a linear space and $\backslash(x, y$ lepsilon $X \backslash)$. The line segment $[x, y$ ] joining $x$ and $y$ is define by $[x, y]=$ $\qquad$
$\backslash(\{\backslash \operatorname{lambda} x+(1-\backslash l a m b d a) y: 0$ Veq \lambda \leq 1$\} \backslash)$
[MTH412] The real line R becomes a normed linear space if $(k \backslash t i m e s k \backslash)$ is set to be $\qquad$ for every number $\backslash(x \backslash e p s i l o n ~ R \backslash)$.
|x|
[MTH412] Let $\backslash\left(k \mid c d o t ~ k \_\{1\} \backslash\right)$ and $\backslash\left(k \backslash c d o t ~ k \_\{2\} \backslash\right)$ be two norms defined on a linear defined on a linear space $\backslash(X \backslash c d o t h$ \cdot $\} \backslash)$ and $\backslash\left(k \backslash c d o t ~ k \_\{2\} \backslash\right)$ are called equivalent if there exist constants $a, b>0$ such that $\qquad$ $\backslash\left(a \operatorname{kltimes} k \_\{1\} \backslash g e q 0 \backslash\right)$
[MTH412] All norms defined on a finite dimensional space are $\qquad$ normal

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