direction of \(v\) given by \(L={x+\alpha v: \alpha \epsilon R\) is a _________
convex set

[MTH412] Any linear subspace \(M\) of \(R^{n}\) is a convex set since linear subspaces are________ under addition and scalar multiplication.
closed

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[MTH412] Let \(p\leq 1\) be a fixed real number. Each element in the space \(l_{p}\) is a sequence, \(x = (x_{1}, x_{2}, . . ., x_{k}, . . .) of real numbers that converge then, \(sum_{k=1}^{\infty} |x_{k}|_{p}\) _________ n
\(<\infty \)

[MTH412] \(a k\times k_{2}\leq k\times k_{1}\)
vector space

[MTH412] Let X be a linear space and \(x,y \epsilon X \). The line segment [x, y] joining x and y is define by [x,y]= ___________
\({\lambda x +(1-\lambda)y:0 \leq \lambda \leq 1}\)

[MTH412] Let X be a linear space and \(x,y \epsilon X \). The line segment [x, y] joining x and y is define by [x,y]= ___________
\({\lambda x +(1-\lambda)y:0 \leq \lambda \leq 1}\)

[MTH412] The real line R becomes a normed linear space if\(k \times k\) is set to be__________ for every number \(x\epsilon R\).
|x|

[MTH412] Let \(k\cdot k_{1}\) and \(k\cdot k_{2}\) be two norms defined on a linear defined on a linear space \(X\cdot k \cdot }\) and \(k \cdot k_{2}\) are called equivalent if there exist constants a, b > 0 such that ______________
\(a k\times k_{1}\geq 0\)

[MTH412] All norms defined on a finite dimensional space are ________________
normal