

Substitute $x=4$ and $y=2$ into the given function $f(x,y)=xy$, we got $f(4,2)=4(2)=8$.

To determine whether 8 is the maximum or the minimum value is, find another order pair that satisfy the given constraint.

Notice $x=6$ and $y=1$ satisfy the constraint $x+2y=8$.

Since $f(6,1)=6(1)=6$, which is less than 8, it follows 8 **is the maximum value** with respect to the given constraint. There is **no relative minimum**.

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