

Solve the Linear Diophantine Equation

$$868x + 465y = 62$$

Solution: Use EEA:

x	y	r	q
1	0	868	
0	1	465	
1	-1	403	1
-1	2	62	1
7	-13	31	6
-15	28	0	2

Therefore, $868(7) + 465(-13) = 31$. Further, $868(14) + 465(-26) = 62$. By LDET2, we have that

$$x = 14 + \frac{465}{31}n = 14 + 15n \quad y = -26 - \frac{868}{31}n = -26 - 28n$$

for all $n \in \mathbb{Z}$.