R Notebook

1.

```
m <- matrix(c(4, 2, 3, 3.5,
              1, 1, 1, 1), 2, 4, byrow=T)

m
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    4    2    3  3.5
## [2,]    1    1    1  1.0
```

```
fractions(rref(m))
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    1    0  1/2  3/4
## [2,]    0    1  1/2  1/4
```

2.

$A => 800 + 50$

```
dimnames = list(c("A", "B", "C", "D", "E", "F"), c("x1", "x2", "x3", "x4", "x5", "x6", "x7", "VS"))

streets <- matrix(c(1,  0,  0,  0,  0,  0,  1,  1300,
                    1, -1,  0,  0,  0,  1,  0,   200,
                    0,  1,  0,  0, -1,  0,  0,   200,
                    0,  0,  0, -1,  1,  0,  0,   400,
                    0,  0,  1, -1,  0,  1,  0,   100,
                    0,  0,  1,  0,  0,  0,  1,   600), 6, 8, byrow=T, dimnames=dimnames)

rref(streets)
```

```
##   x1 x2 x3 x4 x5 x6 x7   VS
## A  1  0  0  0  0  0  1 1300
## B  0  1  0  0  0 -1  1 1100
## C  0  0  1  0  0  0  1  600
## D  0  0  0  1  0 -1  1  500
## E  0  0  0  0  1 -1  1  900
## F  0  0  0  0  0  0  0    0
```