

#--Question 1

octave:9> a = [1,1,0;2,0,7;0,2,-7]

a =

```
 1  1  0
 2  0  7
 0  2 -7
```

octave:10> b = [-8; -3; -5]

b =

```
-8
-3
-5
```

octave:11> a\b

warning: matrix singular to machine precision, rcond = 0

warning: attempting to find minimum norm solution

warning: dgelsd: rank deficient 3x3 matrix, rank = 2

ans =

```
-2.64706
-2.68627
 0.13725
```

#----

2.64706 0.13725

-----<----->-----

| | |

| | |

| | ^ 2.68627 |

| | |

----->-----<-----

#

#

#-----Question 2

octave:17> a = [2, 1; 1, -2]

a =

```
 2  1
 1 -2
```

octave:18> b = [1 ; 0]

b =

```
 1
 0
```

octave:19> i = a\b

i =

```
 0.40000
 0.20000
```

octave:22> r = 1/(3*i(1))

r = 0.83333

#

```
# I(1) is the current on 8-6, 8-7 or 8-4.  
# I(2) is the current on 6-5, 6-2, 7-3, 7-5, 4-3, or 4-2  
# so  $I(2) = 1/2 * I(1)$   
# the equivalent resistance is  $V/I$ , here  $V = 1$   
# and  $I = 3 * I(1)$  since I split to 3 direction on node 8  
#
```