

1.

a =

Columns 1 through 10

-0.0000	-0.1036	-0.1349	-0.0855	-0.0213	-0.0000	0.0039	0.0912	0.3460	0.7363
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Columns 11 through 20

1.0986	1.2321	1.0390	0.6087	0.1794	0.0000	0.1849	0.6535	1.1861	1.5495
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Column 21

1.6094

b =

Columns 1 through 5

0.0000 + 0.0000i	-1.6530 + 0.0000i	-1.6302 + 0.9568i	-1.5386 + 1.0802i	-1.3993 + 1.0514i
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Columns 6 through 10

-1.2249 + 0.9496i	-1.0228 + 0.8051i	-0.7975 + 0.6323i	-0.5515 + 0.4385i	-0.2857 + 0.2272i
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Columns 11 through 15

0.0000 + 0.0000i	0.3067 - 0.2431i	0.6364 - 0.5031i	0.9922 - 0.7818i	1.3779 - 1.0823i
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Columns 16 through 20

1.7991 - 1.4084i	2.2628 - 1.7654i	2.7784 - 2.1604i	3.3587 - 2.6030i	4.0210 - 3.1062i
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Column 21

4.7897 - 3.6883i

c =

Columns 1 through 10

0	0.1169	0.2704	0.4656	0.7083	1.0056	1.3662	1.8006	2.3220	2.9466
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Columns 11 through 20

3.6945	4.5907	5.6661	6.9589	8.5162	10.3963	12.6708	15.4276	18.7746	22.8444
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Column 21

27.7991

2.

Quarterly costs for materials: 178000, 162000, 241000, 179000  
Quarterly costs for labor: 138000, 117000, 172000, 112000  
Quarterly costs for transportation: 84000, 72000, 96000, 64000

Total costs for materials: 760000  
Total costs for labor: 539000  
Total costs for transportation: 316000

The total quarterly costs: 400000, 351000, 509000, 355000

3.

a.

B =

1.0000	2.0000	7.0000	3.0000
4.0000	4.0000	9.0000	3.1416
2.0000	100.0000	7.0000	42.0000

b.

D =

1.0000	4.0000	2.0000
2.0000	4.0000	100.0000
3.0000	3.1416	42.0000

c.

x =

2	100	7	42
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d.

x\_sum =  
151

e.

e =

14	28	700
18	36	900
14	28	700

4.

n	$x_n$
0	0
1	1
2	$4/3$
3	1
4	$8/15$
5	$2/9$
6	$8/105$
7	$1/45$
8	$16/2835$
9	$2/1575$
10	$8/31185$
11	$2/42525$
12	$16/2027025$
13	$4/3274425$
14	$16/91216125$
15	$1/42567525$
16	$32/10854718875$
17	$2/5746615875$
18	$8/206239658625$
19	$2/488462349375$
20	$16/38979295480125$

5.

a.

$R_{\min} =$   
21.4270

$L_{\min} =$   
29.8414

b.

$\min_{\text{cost}} =$   
7467.21