

b. Two venues, A and B, are being considered for the celebration. The costs for each venue are as follows:

- Venue A – \$135 per person, all inclusive
- Venue B – \$75 per person plus a fixed cost of \$3200

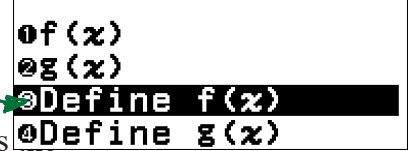
Find the minimum number of guests required to guarantee Venue B is the cheaper option.



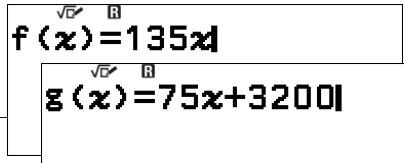
• Press $f(x)$

• Press (x) to

using (x)



• repeat for $g(x)$



2 marks

$$135x > 75x + 3200$$

• Press Tools

• choose

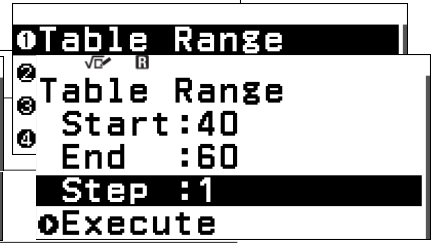
for $x = 53$

$A = \$7155$ $B = \$7175$

for $x = 54$

$A = \$7290$ $B = \$7250$

\therefore min. is 54 guests



x	f(x)	g(x)
4	540	3040
5	675	3175
6	810	3310
7	945	3445

50

Initial exploration
- Sol is b/w 40 and 60

x	f(x)	g(x)
12	1620	3240
13	1935	3375
14	2250	3510
15	2565	3645

54

Table refined to see
Solution is $x = 54$

Do not write in this area.