Fall River

Providence

Taunton

Hartford

Woonsocket

Boston

Framingam

Lowell

Springfield   Sturbridge   Torrington

worester

Nashua

North
Hampton

Pittsfield

Leominster

Greenfield

North Adams   Greenfield
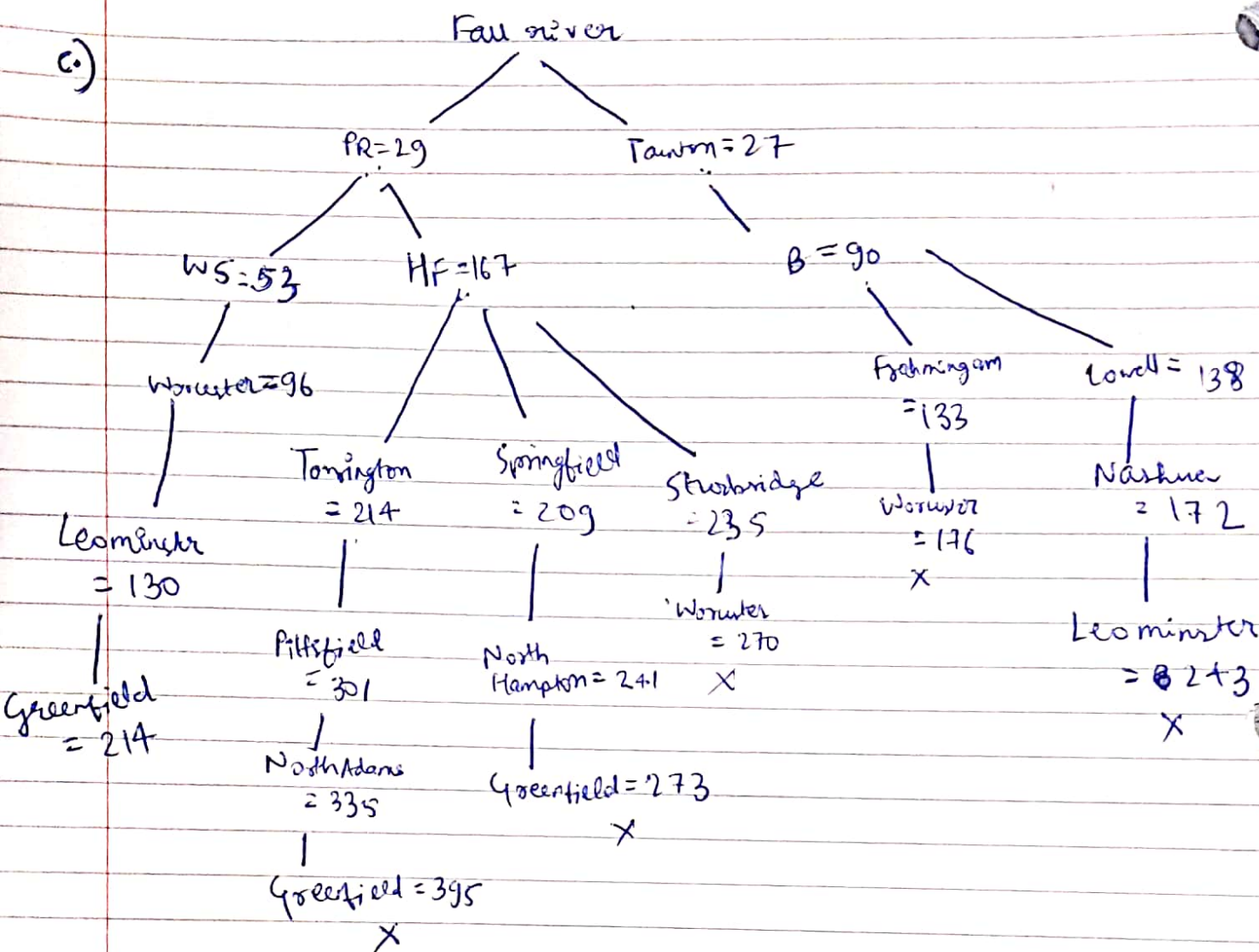
1. a) Path using Breadth First Search

Fall-River → Providence → Taunton → Hartford → Woonsocket →
Boston → Springfield → Sturbridge → Torrington → Worcester →
Frahmingam → Lowell → North Hampton → Pittsfield → Leominster →
Nashua → Greenfield. North Adams → Greenfield

b) path using depth-first search

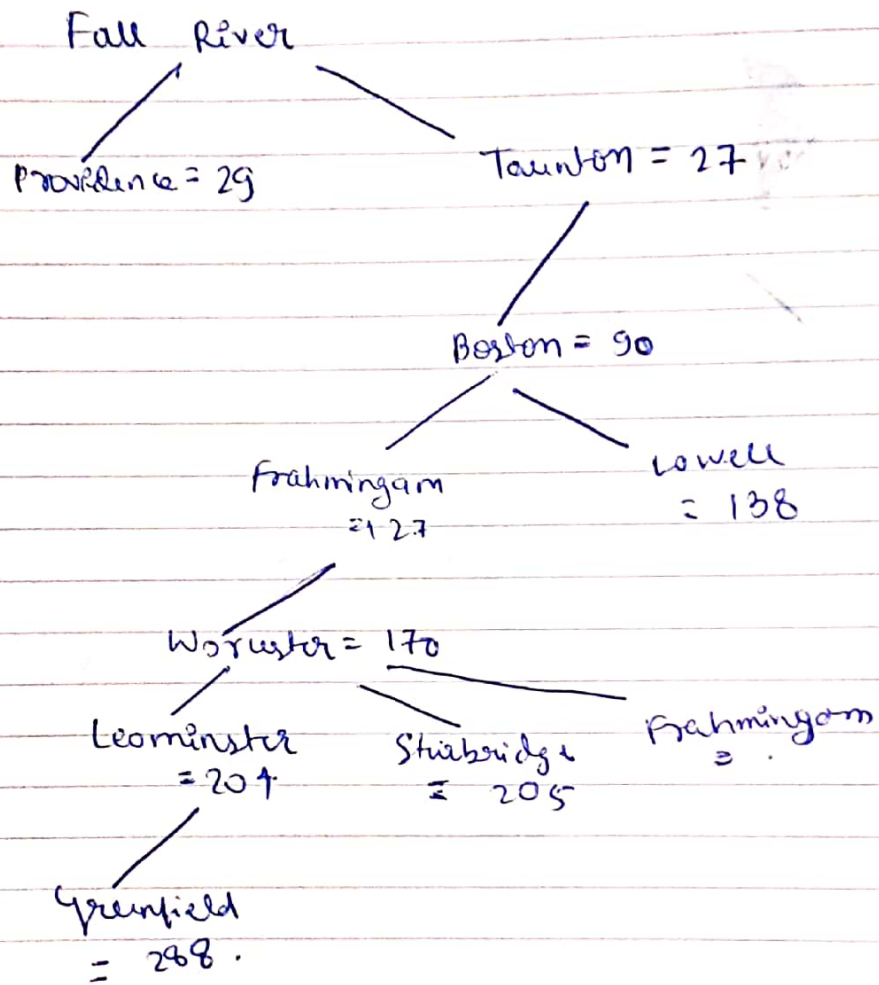Fall-River → Providence → Hardford → Springfield → NorthHampton
→ Greenfield.

Hardford   Springfield   NorthHampton
Fall-River → Providence → Woonsocket → Worester → Leominster
→ Greenfield.

c.)

Fall river

PR=29   Tawin=27

WS=53   HF=167   B=90

Worcester=96   Frahmingam   Lowell = 138
                                          =133

             Torrington   Springfield   Worcester   Nashua
             = 214   = 209   Strobridge   = 176   = 172
Leominstr   =235
= 130   X
             Pittsfield   North   Worcester   Leominster
             = 301   Hampton= 241 = 270   = 8243
Greenfield   X   X
= 214
             NorthAdams   Greenfield=273
             = 335   X

             Greenfield = 395
             X

path →   Fall River → Providence → Woonsaket → Worcester →
          Leominster → Greenfield.

Scanned with CamScanner

2.)

Fall River

Providence = 29   Taunton = 27

                              Boston = 90

        Frahmingam   Lowell
          =127   = 138

        Worcester = 170

Leominster   Stubridge   Frahmingam
  = 204   = 205   = .

    Greenfield
    = 268 .
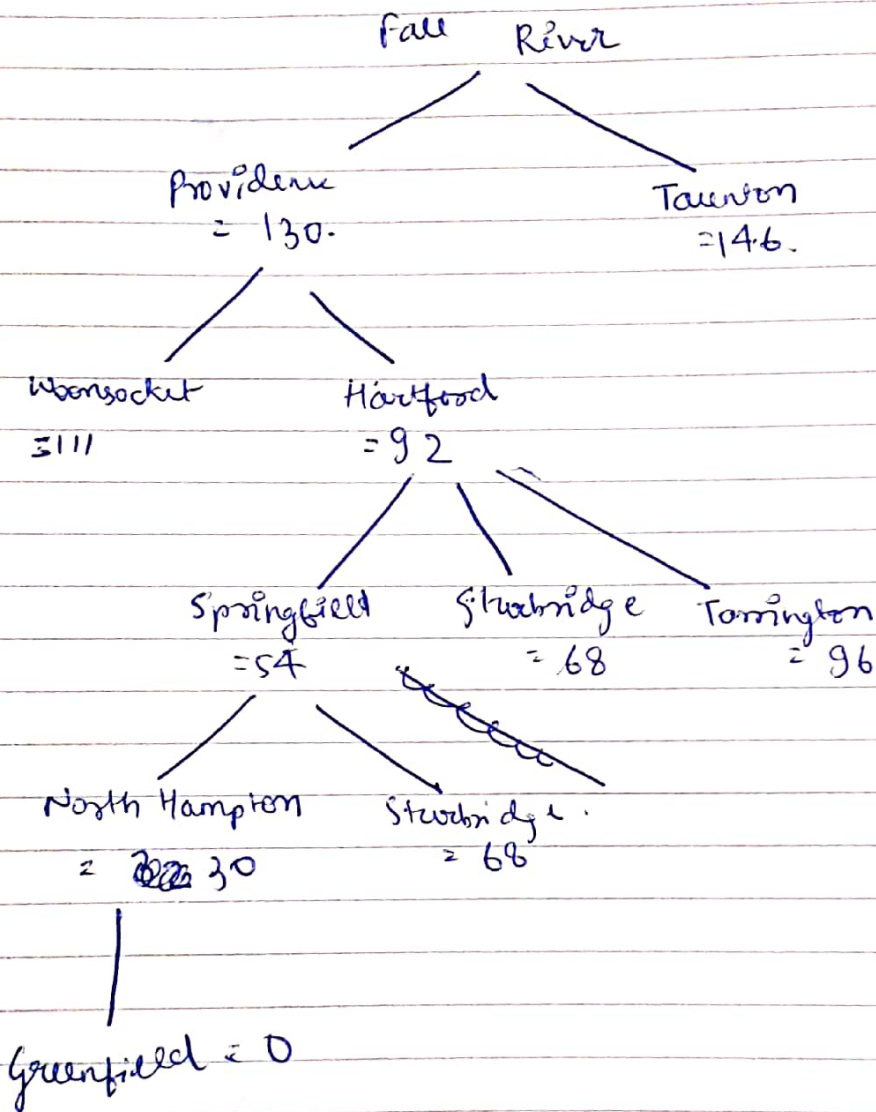
Path =   Fall River → Taunton → Boston → Frahmingam →
          Worcester → Leominster → Greenfield.

3.)

Fall River

Providence
= 130.

Taunton
= 146.

Woonsocket
= 111

Hartford
= 92

Springfield
= 54

Sturbridge
= 68

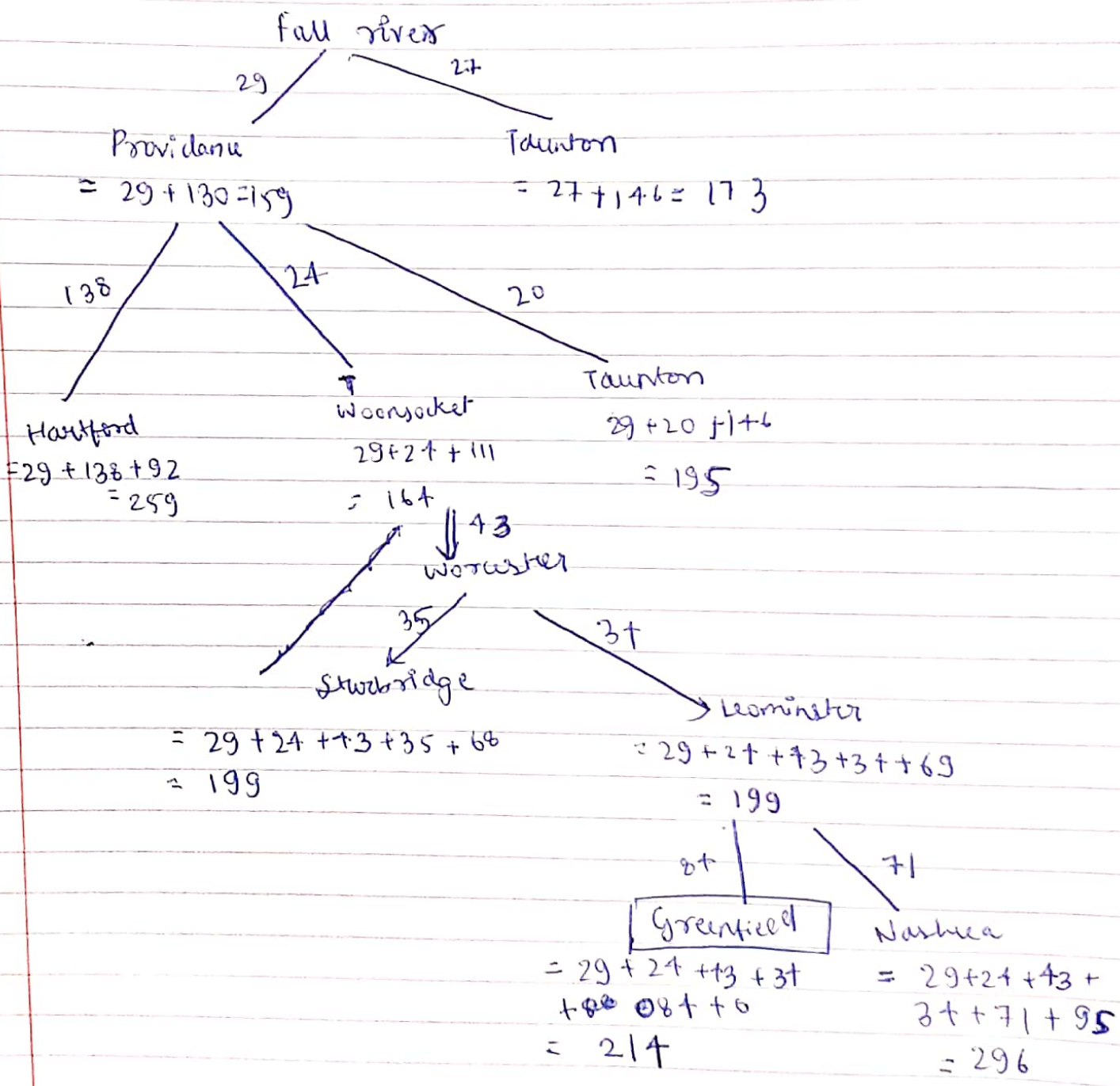Torrington
= 96

North Hampton
= 30

Sturbridge
= 68

Greenfield = 0

Path → Fall River → Providence → ~~Woonsocket~~ → Hartford →
Springfield → North Hampton → Greenfield.

4.) $f(n) = g(n) + h(n)$

fall river

29 / 27

Providane
= 29 + 130 = 159

Taunton
= 27 + 146 = 173

138 / 24 / 20

Hartford
= 29 + 138 + 92
= 259

Woonsocket
29 + 24 + 111
= 164

Taunton
29 + 20 + 1 + 6
= 195

43

Worcester

35 / 34

Sturbridge
= 29 + 24 + 43 + 35 + 68
= 199

Leominster
= 29 + 24 + 43 + 34 + 69
= 199

8 + / 71

Greenfield
= 29 + 24 + 43 + 34
+ 08 + 6
= 214

Nashua
= 29 + 24 + 43 +
34 + 71 + 95
= 296

Path = Fall river → Providency → Woonsocket → Worcestor → Leominster
→ Greenfield.