A2 Maths with Decision Test (pi) Version O

1) Evaluate , giving an exact answer.

2**)** Solve the equation ()

3) Sketch Show clearly any asymptotes, vertical and horizontal, and any crossings with the coordinate axes.

4) Eliminate t from this pair of equations:

5)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | M | A | B | C | D | E |
| M | - | 215 | 170 | 290 | 210 | 305 |
| A | 215 | - | 275 | 100 | 217 | 214 |
| B | 170 | 275 | - | 267 | 230 | 200 |
| C | 290 | 100 | 267 | - | 180 | 220 |
| D | 210 | 217 | 230 | 180 |  | 245 |
| E | 305 | 214 | 200 | 220 | 245 | - |

 The table shows the cost in pounds, of lining five automatic alarm sensors, A, B, C, D and E and the main reception M.

1. Use the Prim’s algorithm starting from M to find a minimum spanning tree for this table of costs. You must list the arcs that form your tree in the order they are selected.

b) Draw your tree.

c) Find the total weight of your tree

6) U

A2 Maths with Decision Test (pi) Version P

1) Evaluate , giving an exact answer.

2**)** Solve the equation ()

3) Sketch Show clearly any asymptotes, vertical and horizontal, and any crossings with the coordinate axes.

4) Eliminate t from this pair of equations:

 5)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | M | A | B | C | D | E |
| M | - | 215 | 170 | 290 | 210 | 305 |
| A | 215 | - | 275 | 110 | 217 | 214 |
| B | 170 | 275 | - | 267 | 230 | 200 |
| C | 290 | 100 | 267 | - | 180 | 220 |
| D | 210 | 217 | 230 | 180 |  | 245 |
| E | 305 | 214 | 200 | 220 | 245 | - |

 The table shows the cost in pounds, of lining five automatic alarm sensors, A, B, C, D and E and the main reception M.

1. Use the Prim’s algorithm starting from M to find a minimum spanning tree for this table of costs. You must list the arcs that form your tree in the order they are selected.

b) Draw your tree.

c) Find the total weight of your tree

 6) U

A2 Maths with Decision Test (pi) Version Q

1) Evaluate , giving an exact answer.

2**)** Solve the equation ()

3) Sketch Show clearly any asymptotes, vertical and horizontal, and any crossings with the coordinate axes.

4) Eliminate t from this pair of equations:

 5)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | M | A | B | C | D | E |
| M | - | 215 | 170 | 290 | 210 | 305 |
| A | 215 | - | 275 | 120 | 217 | 214 |
| B | 170 | 275 | - | 267 | 230 | 200 |
| C | 290 | 100 | 267 | - | 180 | 220 |
| D | 210 | 217 | 230 | 180 |  | 245 |
| E | 305 | 214 | 200 | 220 | 245 | - |

 The table shows the cost in pounds, of lining five automatic alarm sensors, A, B, C, D and E and the main reception M.

1. Use the Prim’s algorithm starting from M to find a minimum spanning tree for this table of costs. You must list the arcs that form your tree in the order they are selected.

b) Draw your tree.

c) Find the total weight of your tree

 6) U

A2 Maths with Decision Test (pi) Version R

1) Evaluate , giving an exact answer.

2**)** Solve the equation ()

3) Sketch Show clearly any asymptotes, vertical and horizontal, and any crossings with the coordinate axes.

4) Eliminate t from this pair of equations:

 5)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | M | A | B | C | D | E |
| M | - | 215 | 170 | 290 | 210 | 305 |
| A | 215 | - | 275 | 130 | 217 | 214 |
| B | 170 | 275 | - | 267 | 230 | 200 |
| C | 290 | 100 | 267 | - | 180 | 220 |
| D | 210 | 217 | 230 | 180 |  | 245 |
| E | 305 | 214 | 200 | 220 | 245 | - |

 The table shows the cost in pounds, of lining five automatic alarm sensors, A, B, C, D and E and the main reception M.

1. Use the Prim’s algorithm starting from M to find a minimum spanning tree for this table of costs. You must list the arcs that form your tree in the order they are selected.

b) Draw your tree.

c) Find the total weight of your tree

 6) U

**Answers Version O**

1.

2) 210, 270, 330



3)

 4)

5) a) BM, BE, DM, CD, CA c) £860

6)

**Answers version P**

2) 210, 270, 330



3)

 4)

5) a) BM, BE, DM, CD, CA c) £870

6)

**Answers version Q**

2) 210, 270, 330



3)

 4)

5) a) BM, BE, DM, CD, CA c) £880

6)

**Answers Version R**

2) 210, 270, 330



3)

 4)

5) a) BM, BE, DM, CD, CA c) £890

6)