

```

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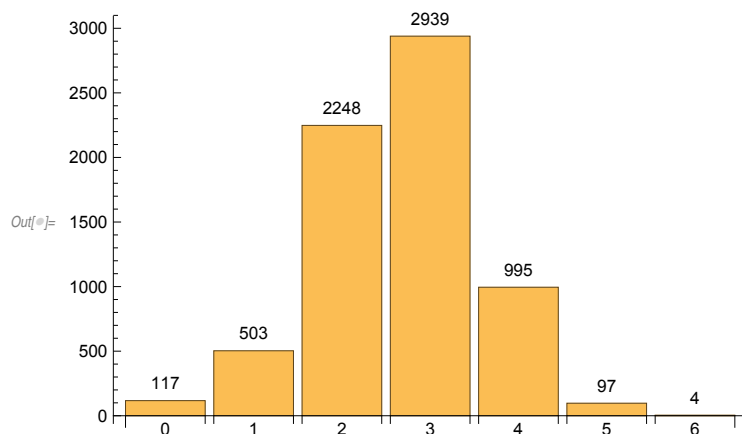
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In[]:=

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LabelingFunction -> Above, ChartLabels -> Table[i, {i, 0, 6}]]
[функция создания отм... [сверху [пометки для ди... [таблица значений

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In[]:=

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Transpose[Table[{C! / (2! * (C - 2)!), C}, {C, 2, 8}]] // MatrixForm
[транспози... [таблиц... [генериру... [генерир... [ге... [генерируемая... [матричная фо]

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Out[]//MatrixForm=

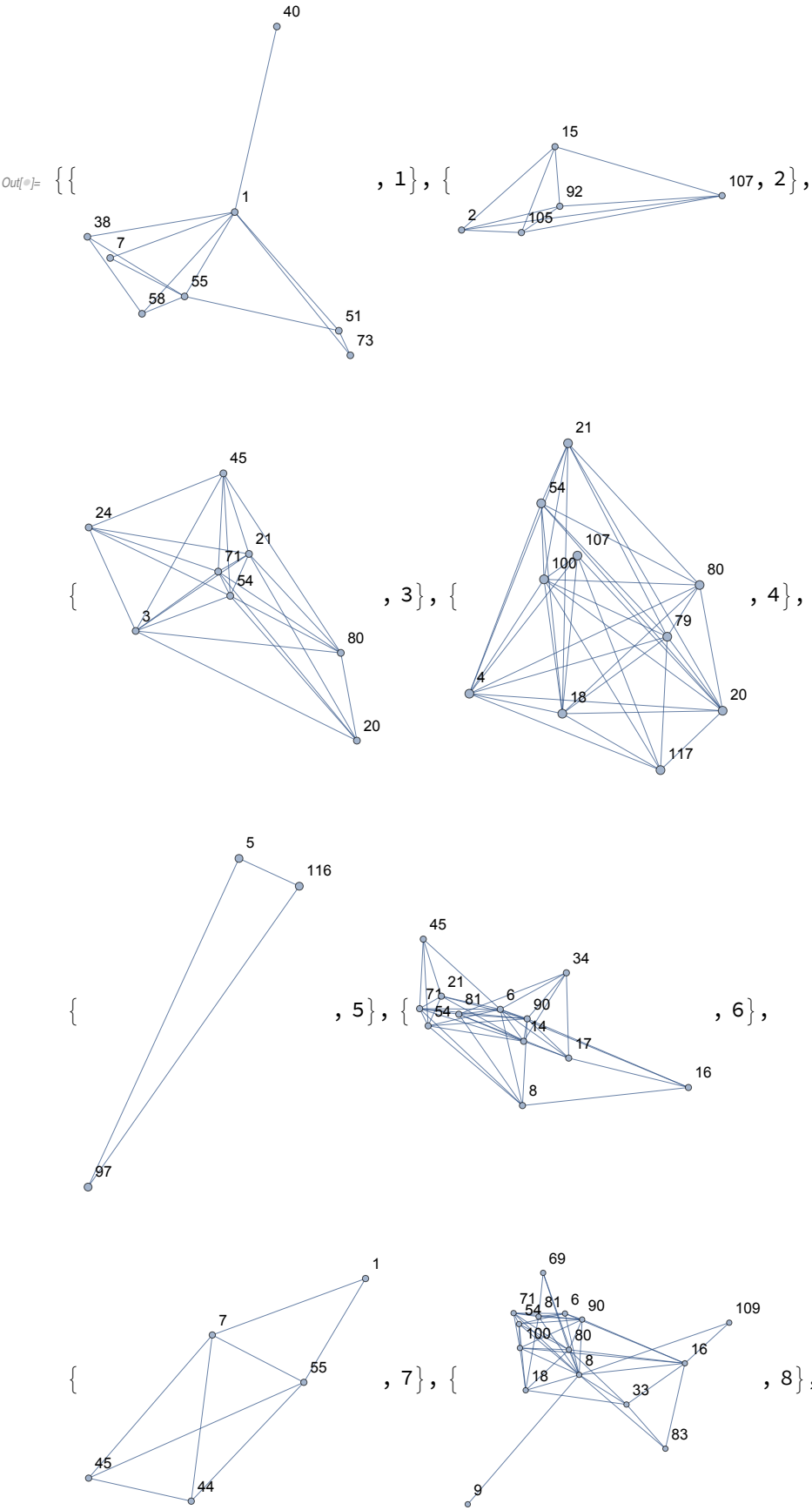
$$\begin{pmatrix} 1 & 3 & 6 & 10 & 15 & 21 & 28 \\ 2 & 3 & 4 & 5 & 6 & 7 & 8 \end{pmatrix}$$

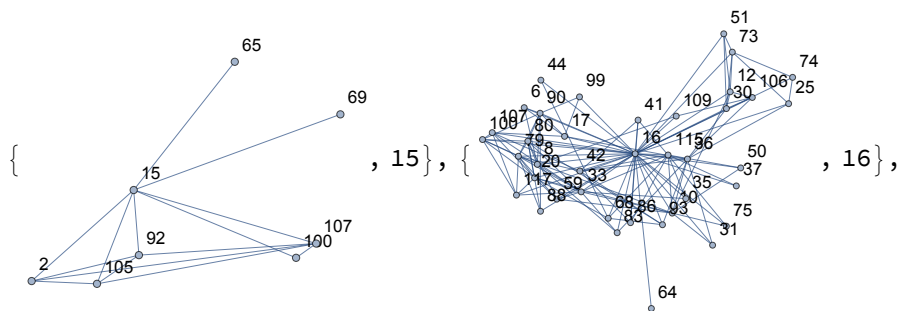
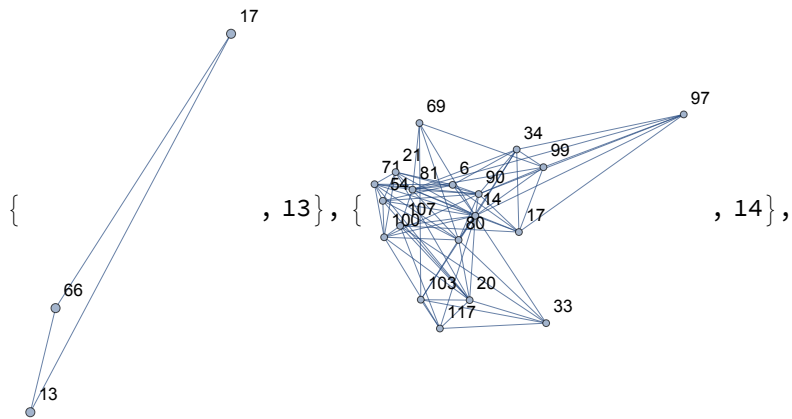
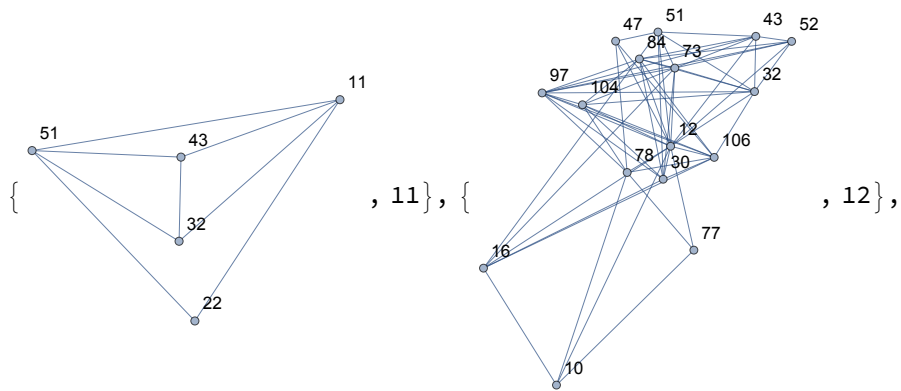
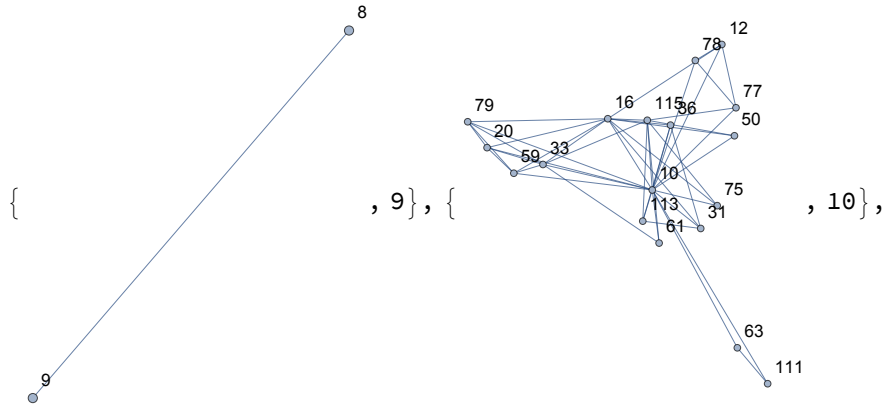
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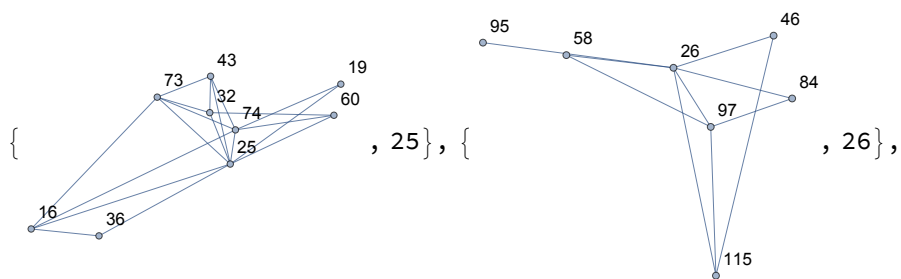
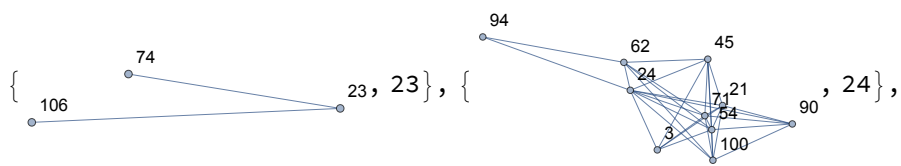
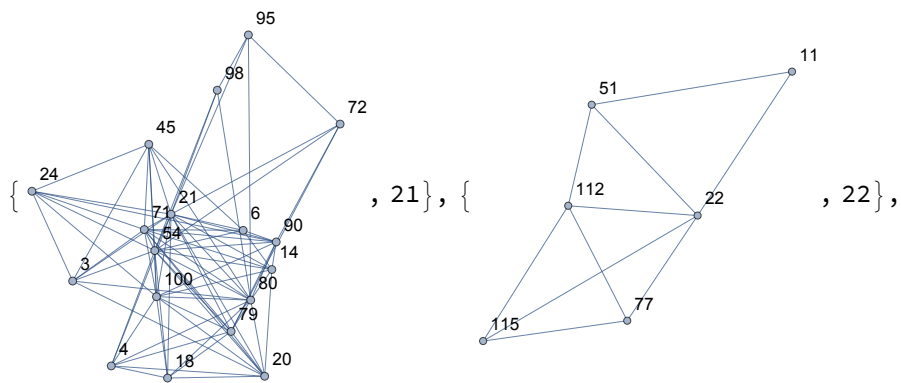
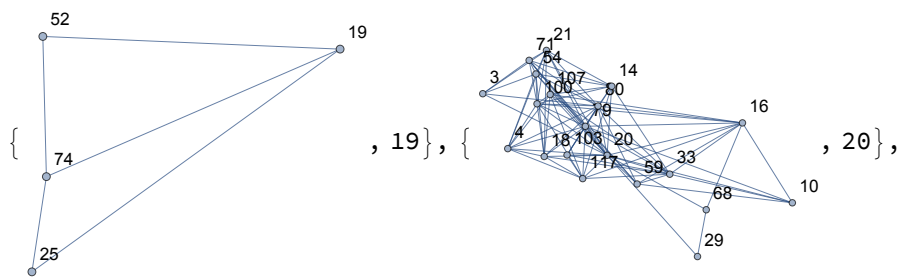
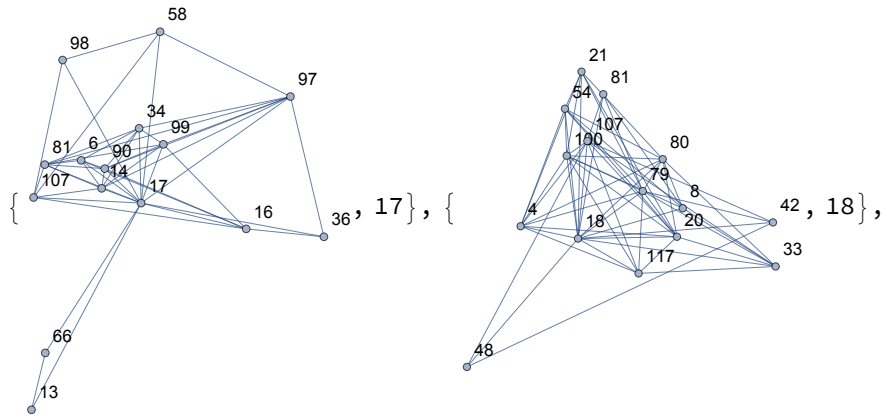
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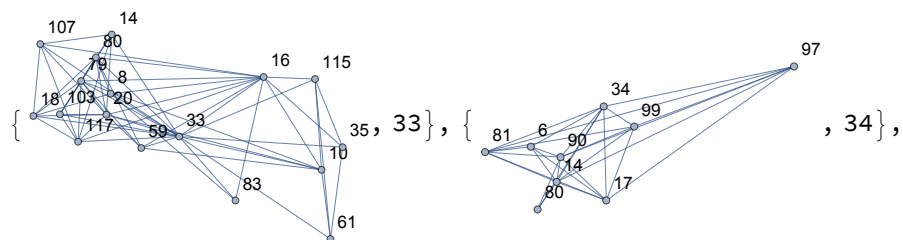
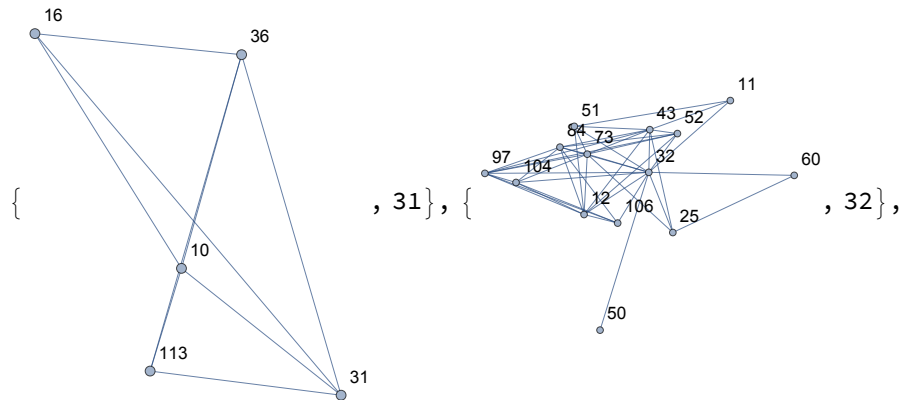
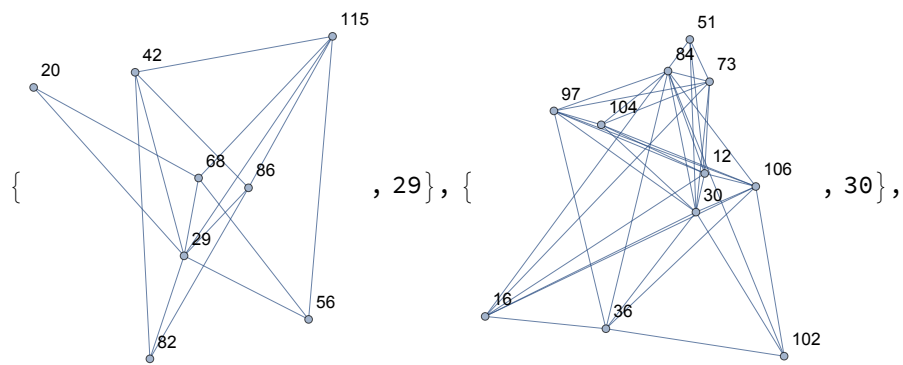
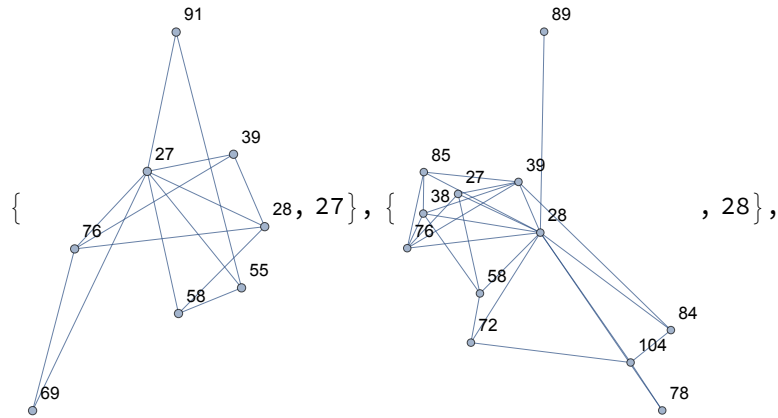
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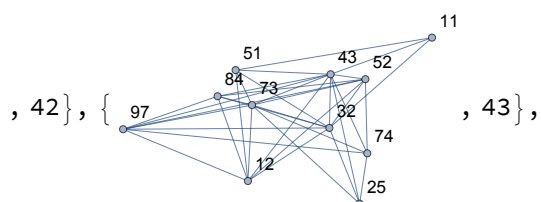
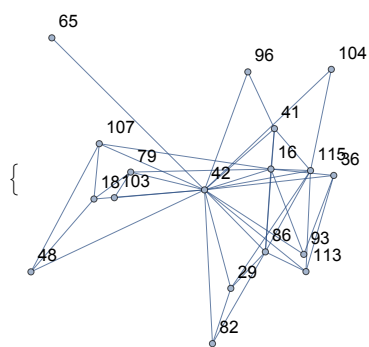
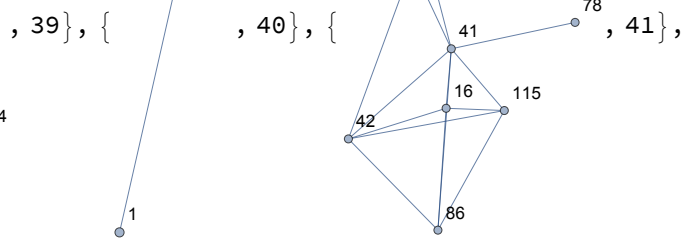
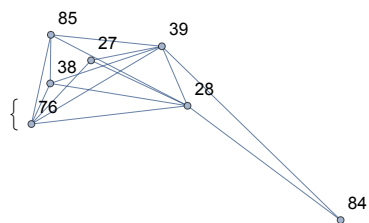
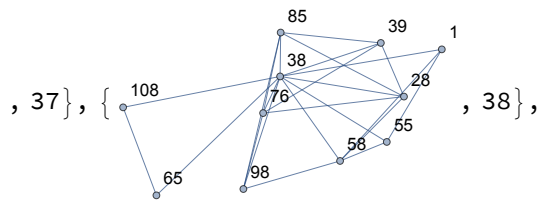
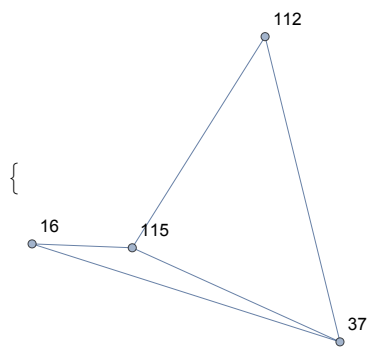
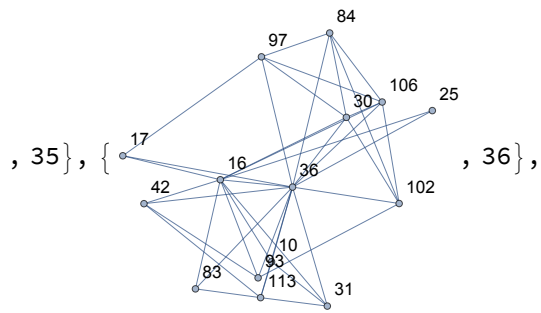
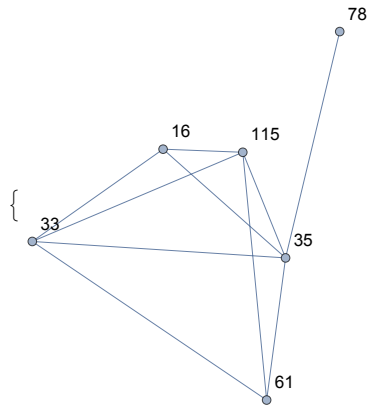
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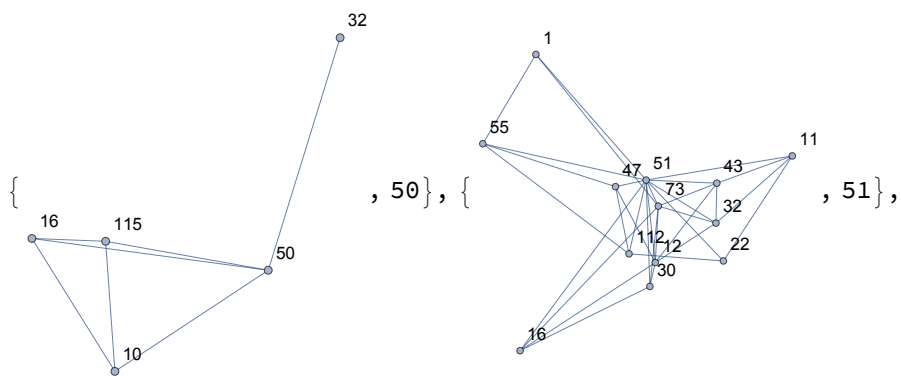
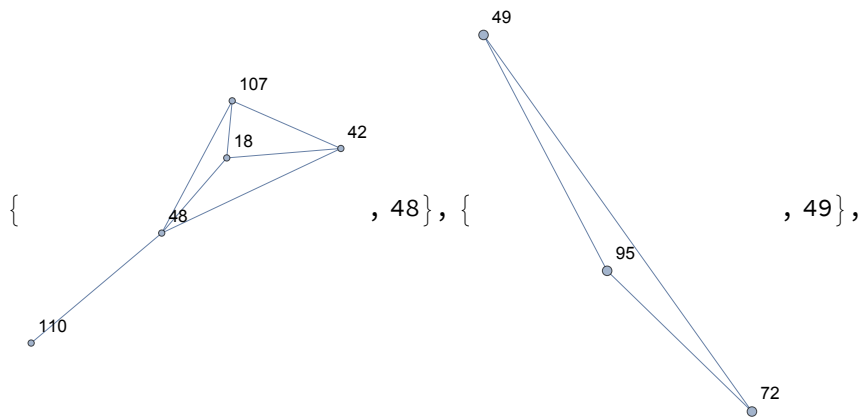
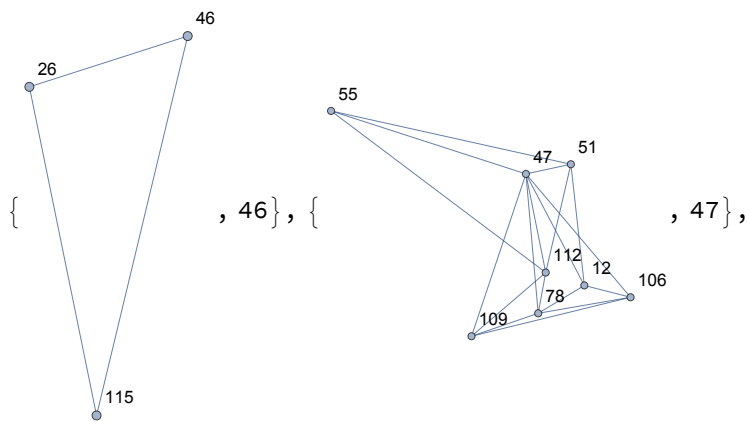
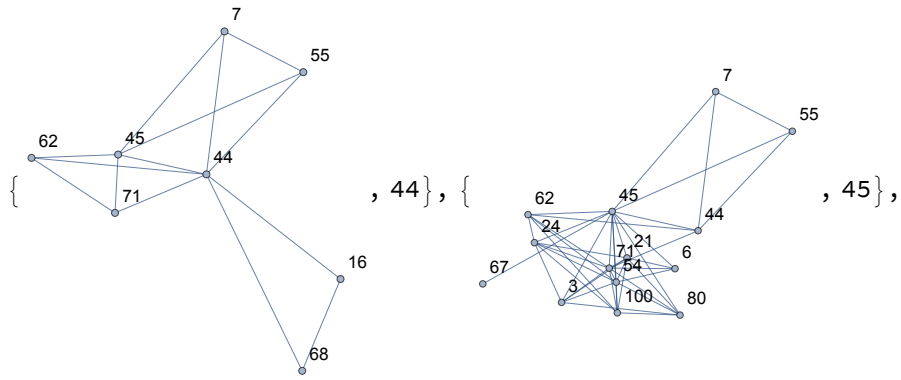


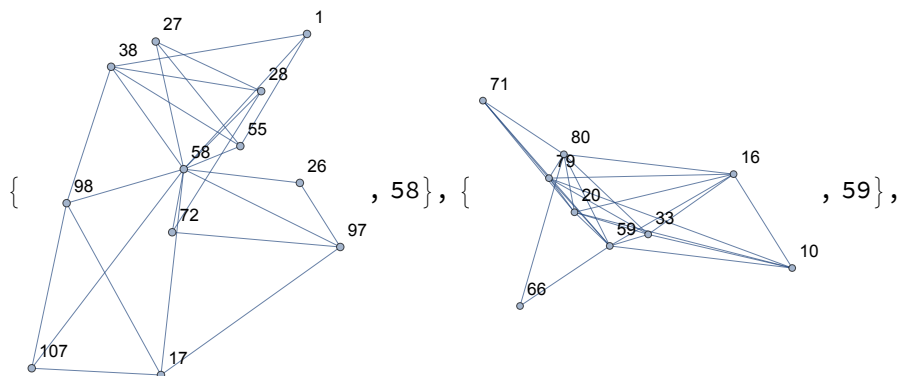
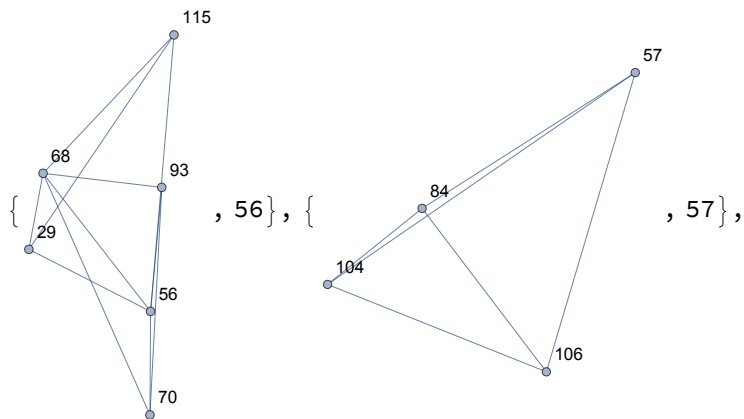
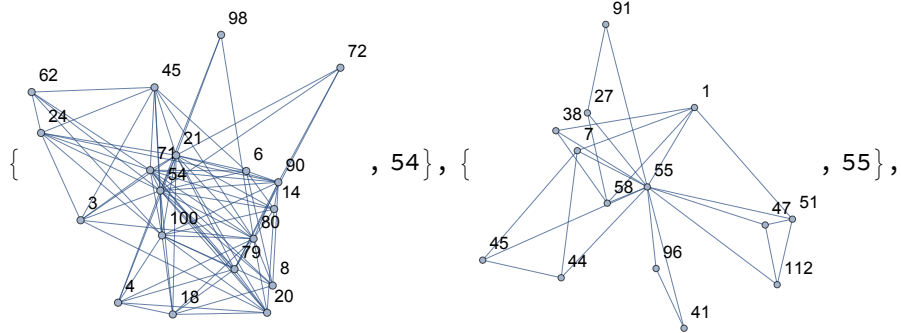
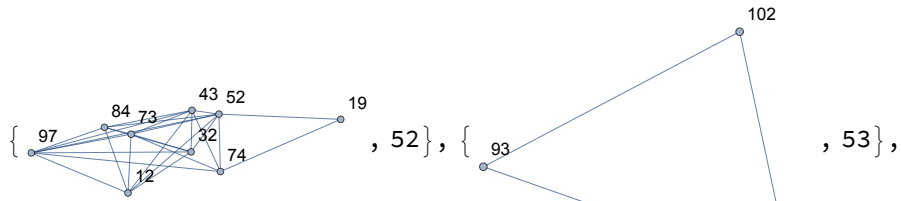


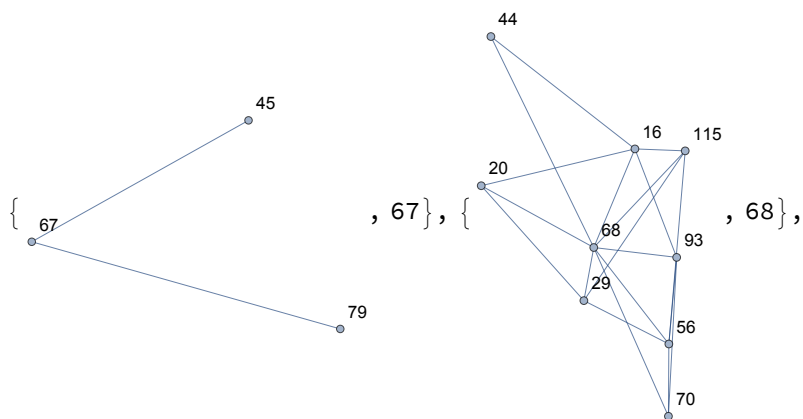
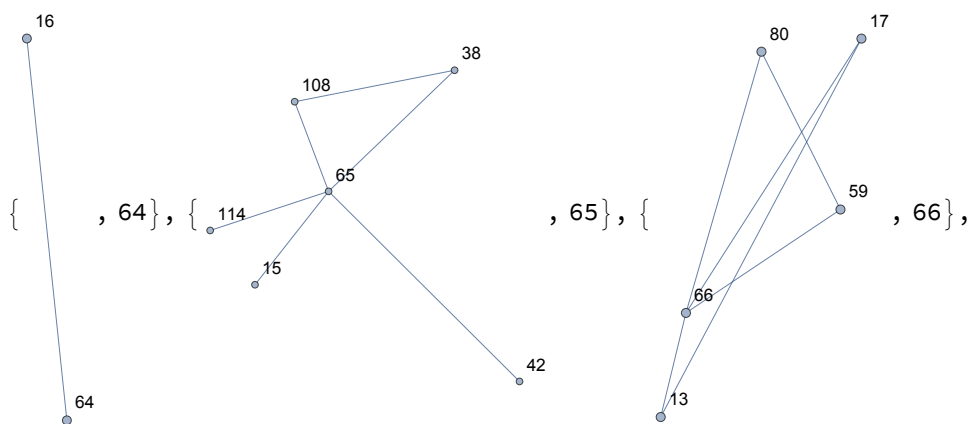
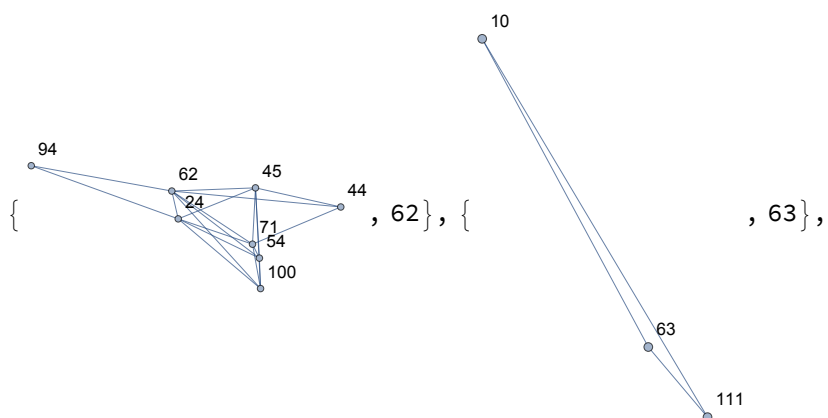
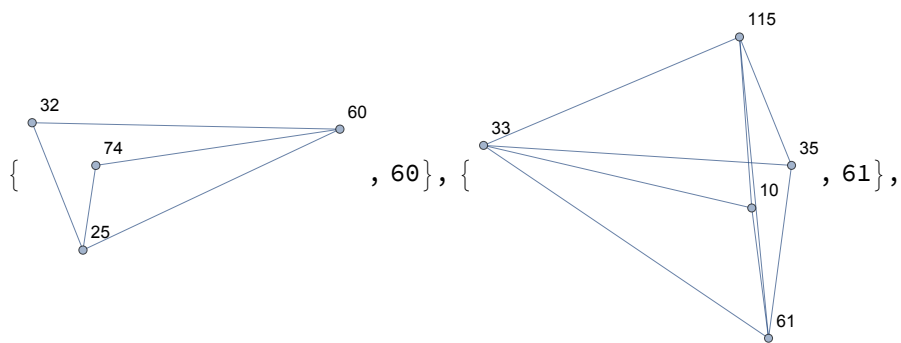


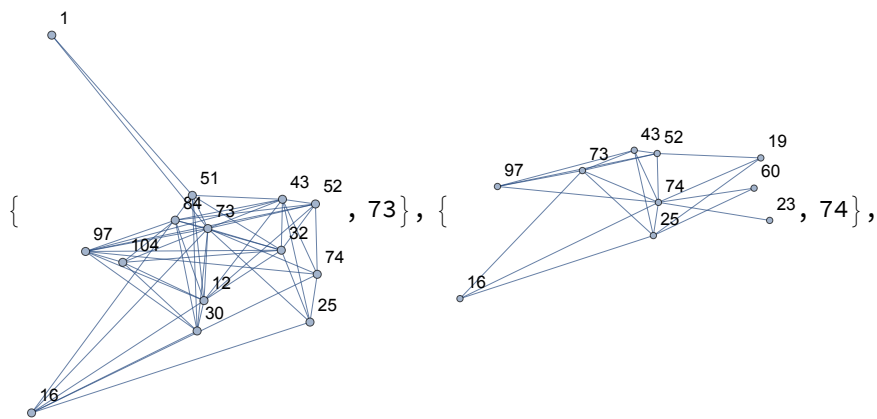
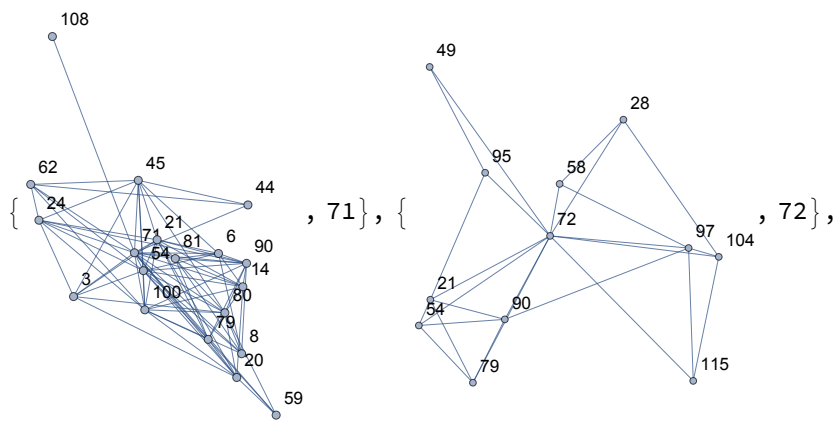
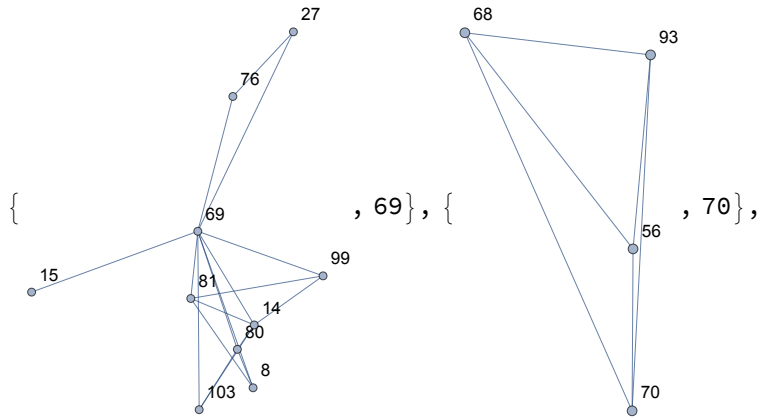


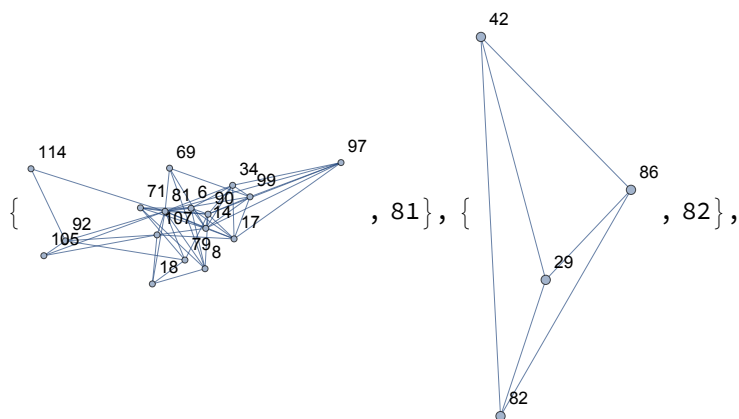
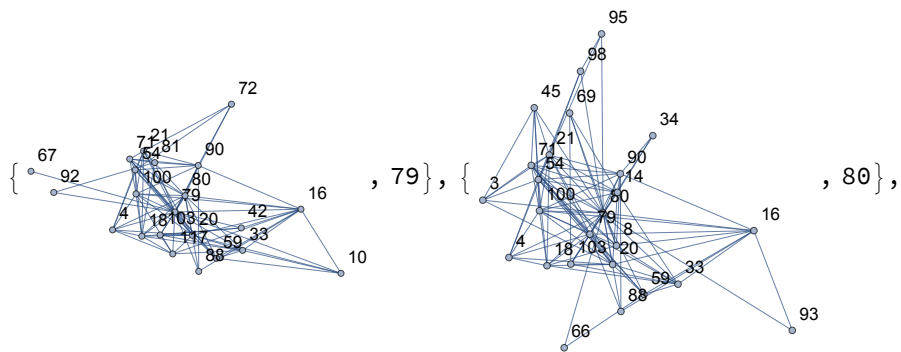
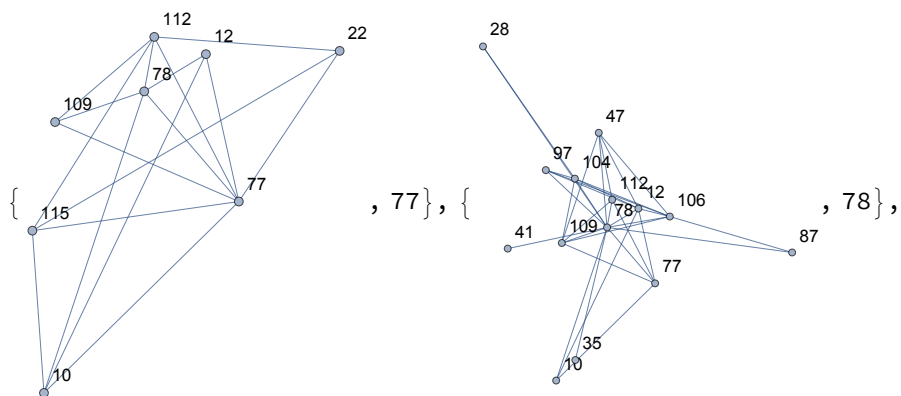
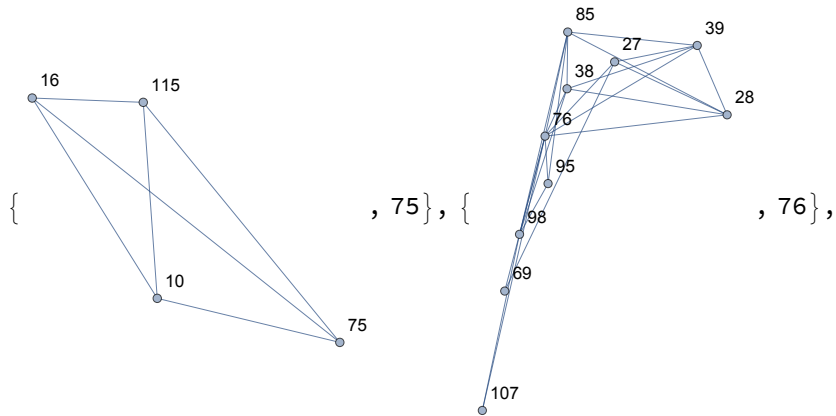


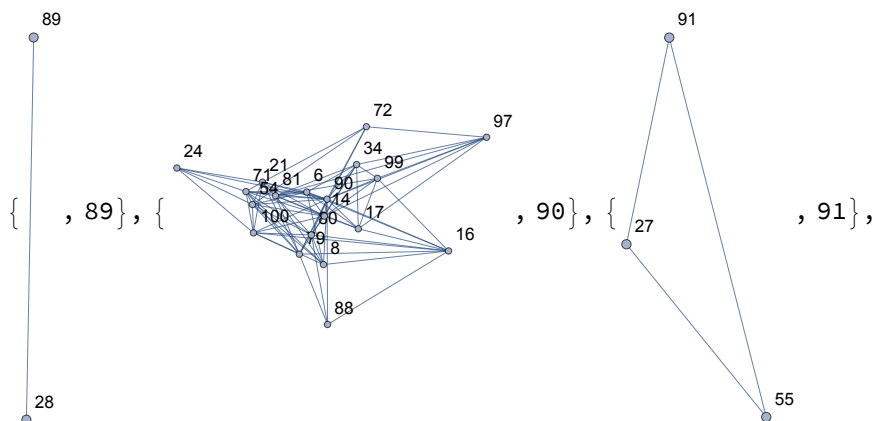
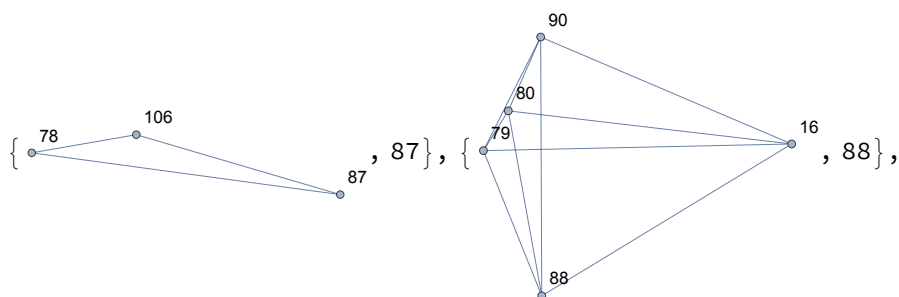
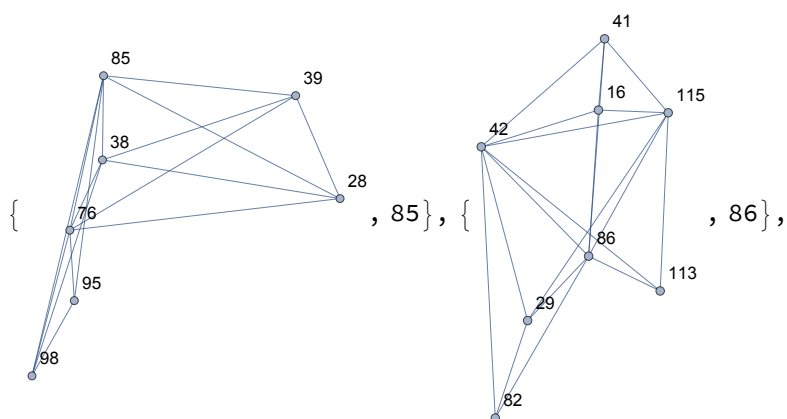
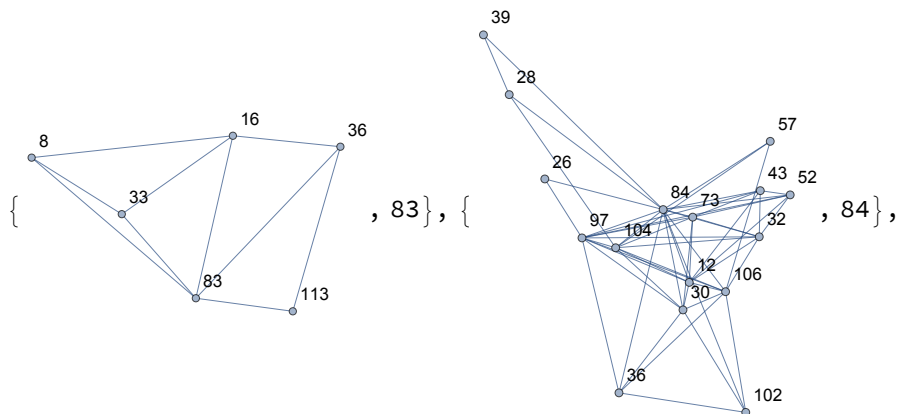


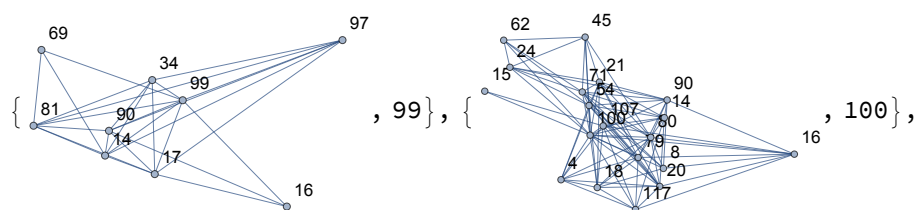
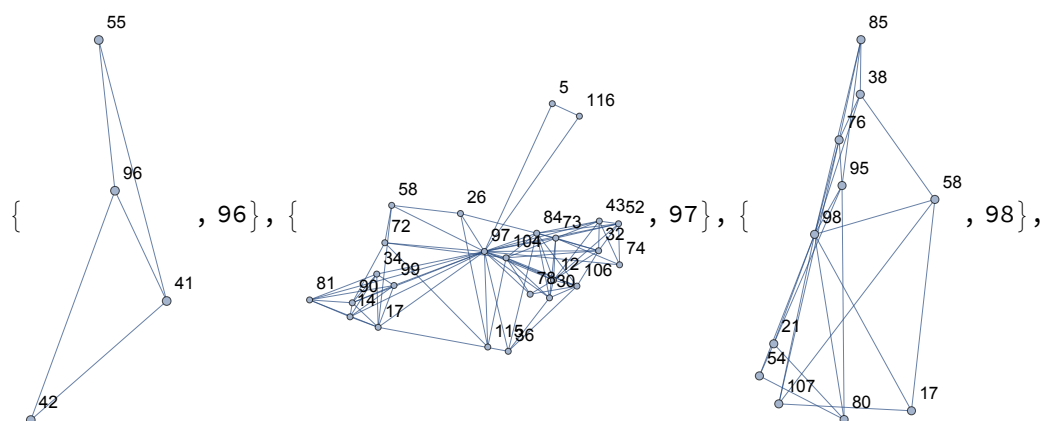
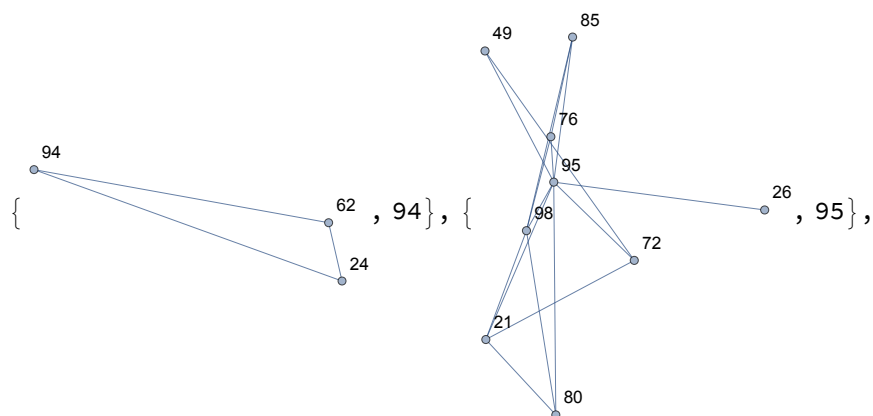
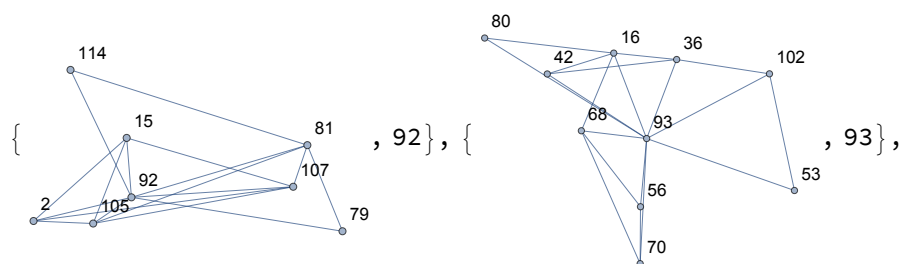


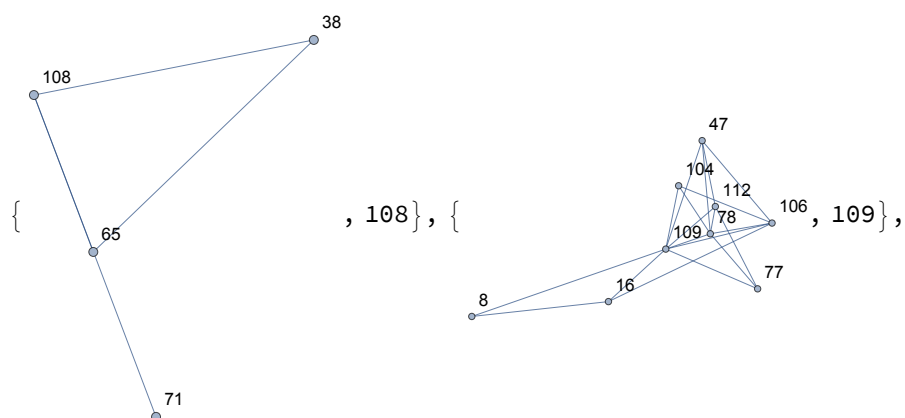
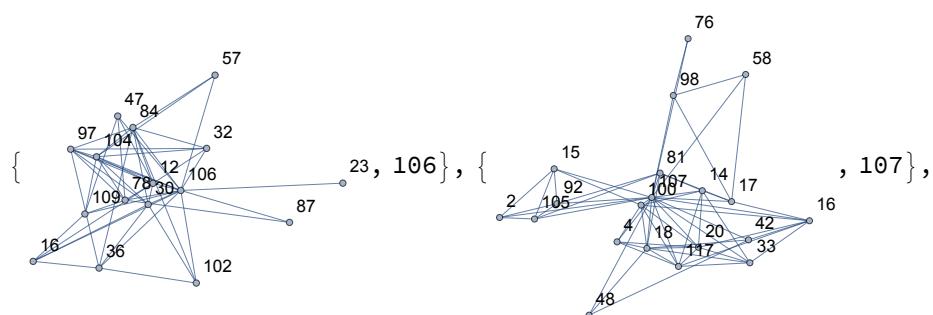
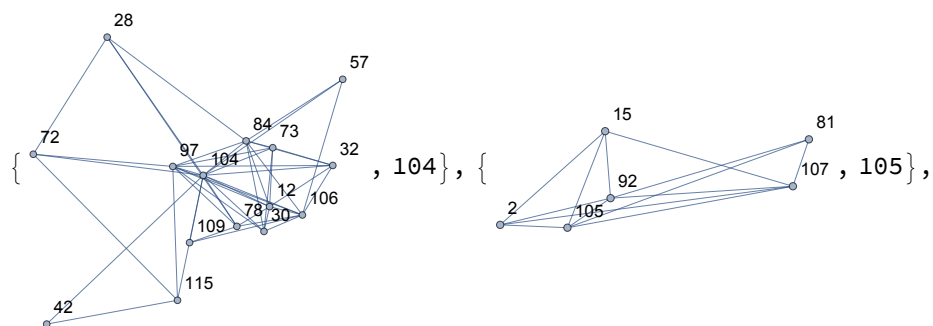
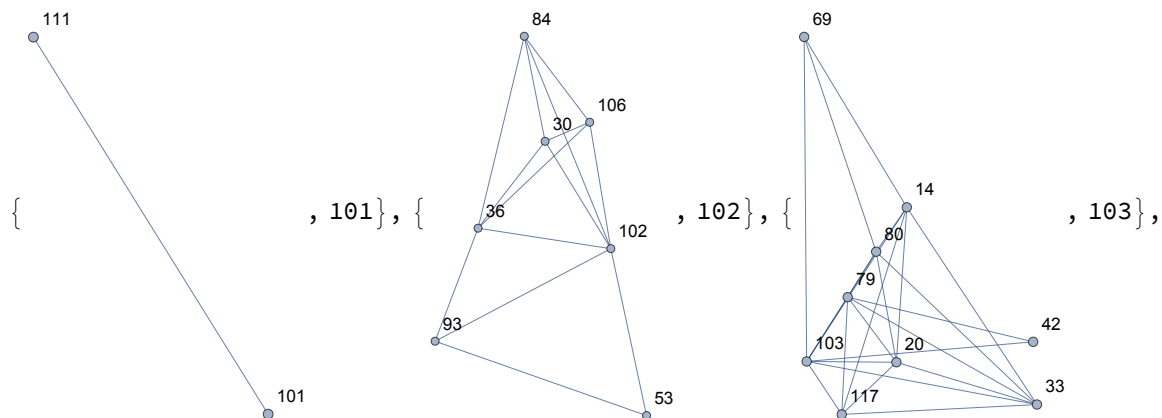


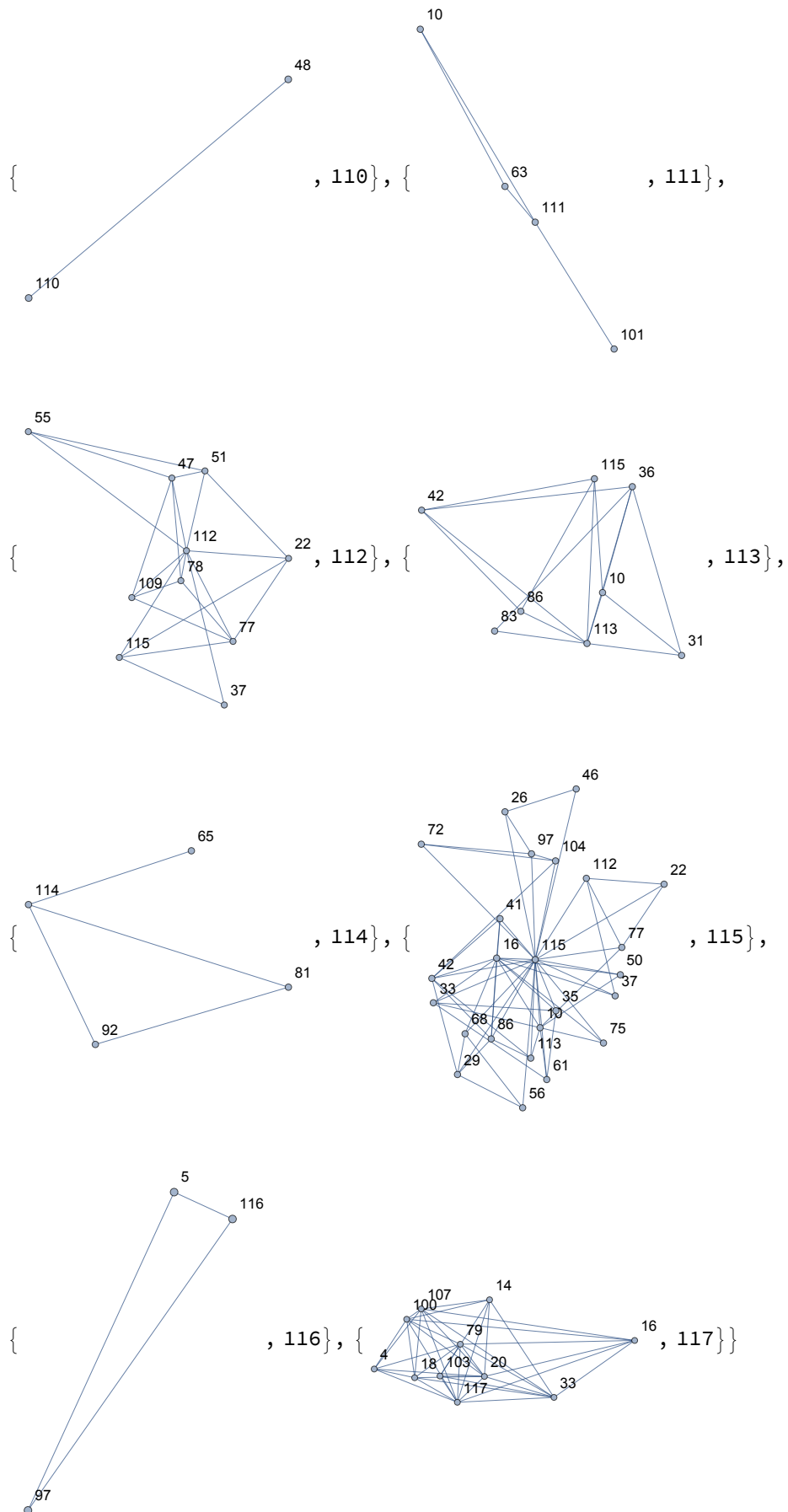










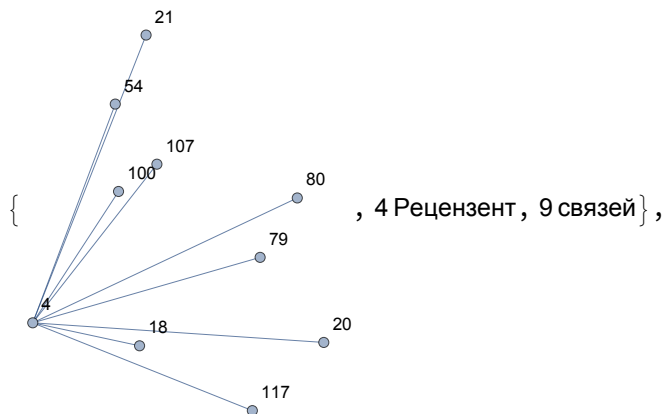
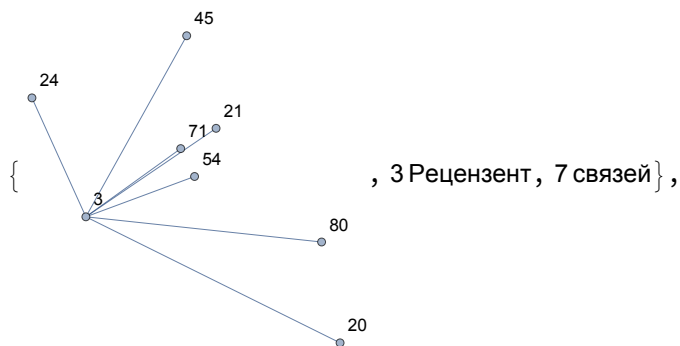
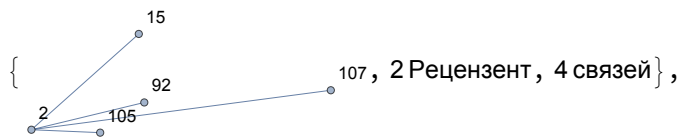
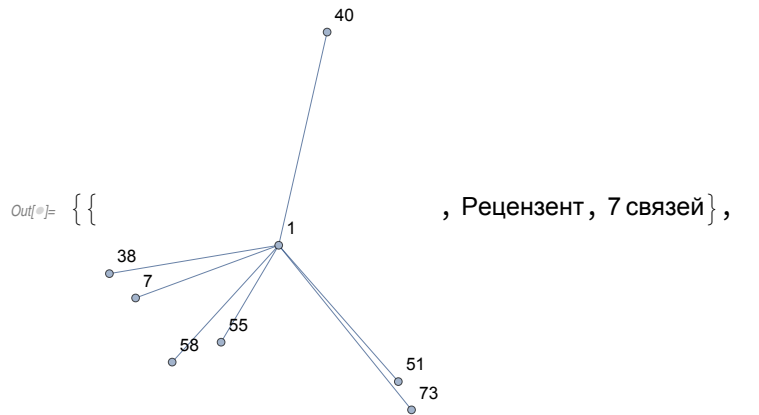


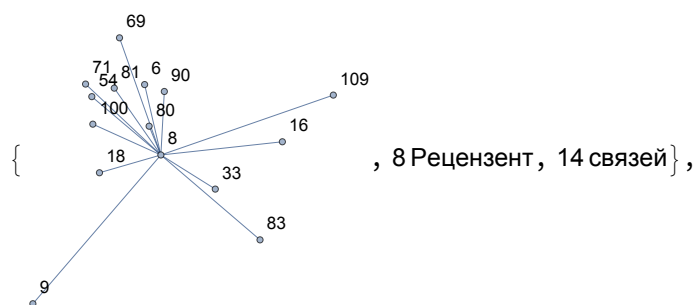
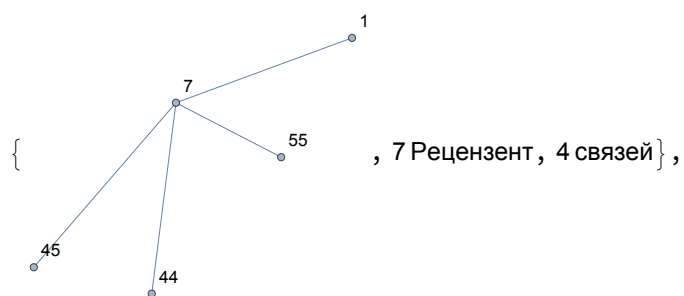
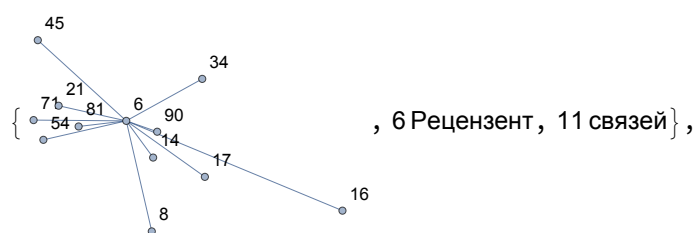
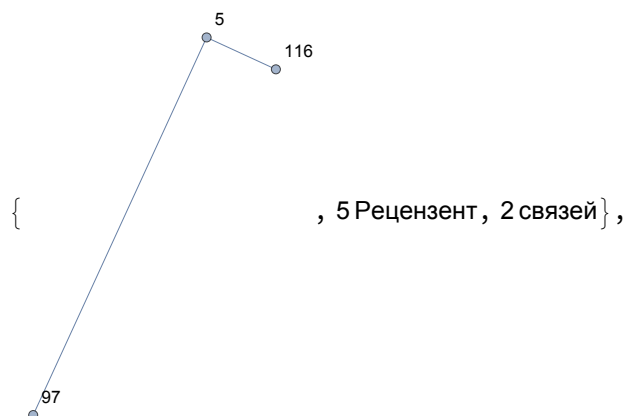
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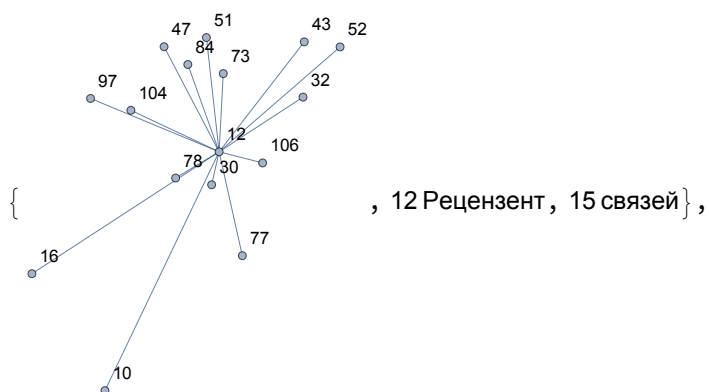
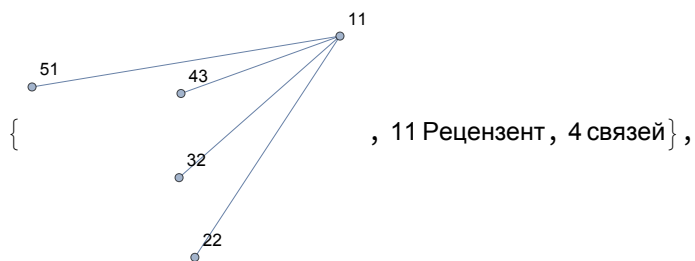
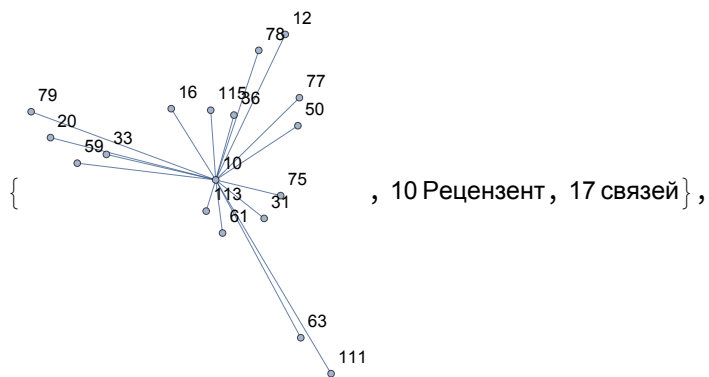
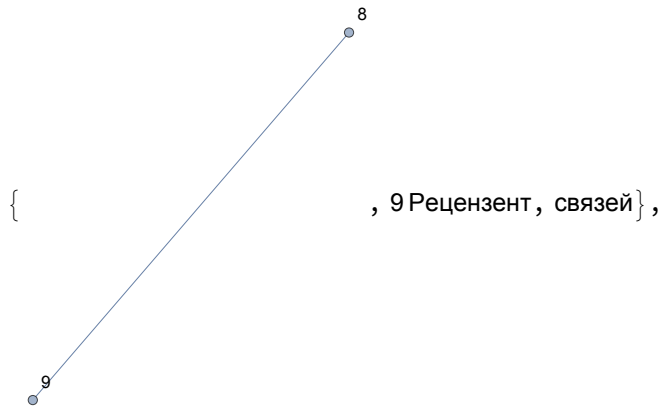
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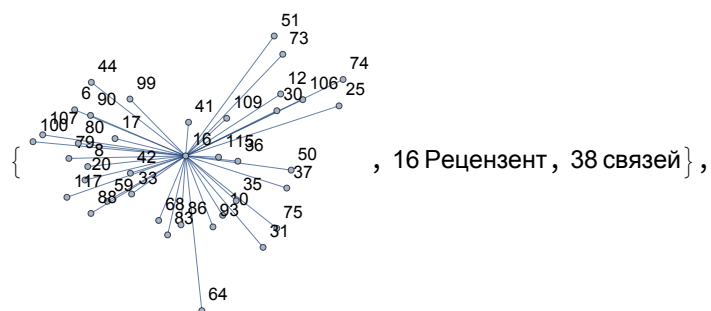
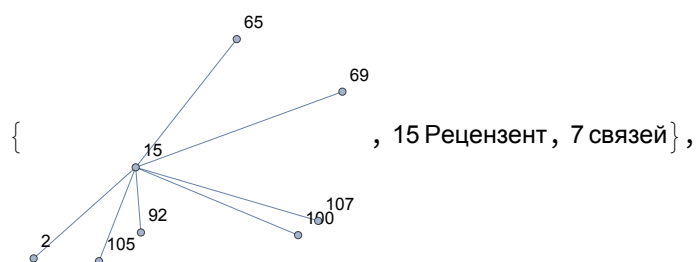
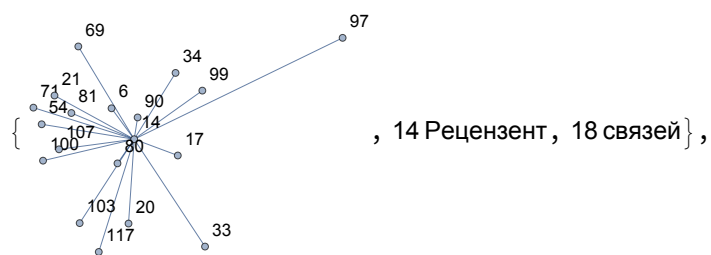
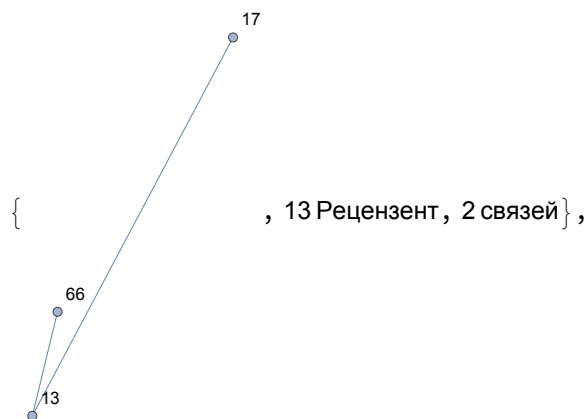
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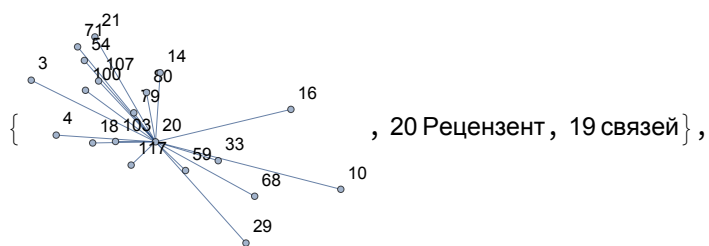
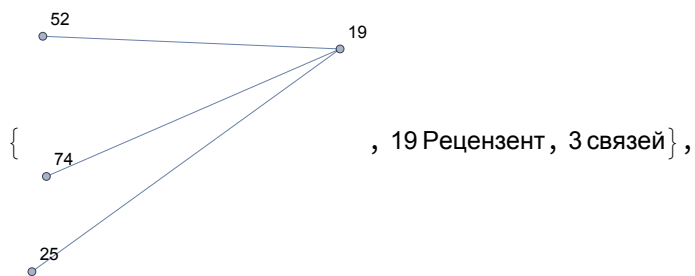
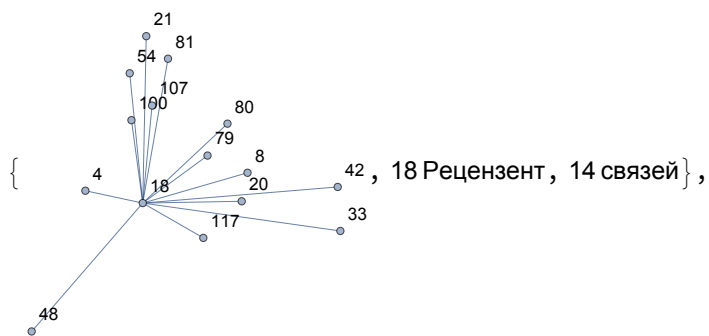
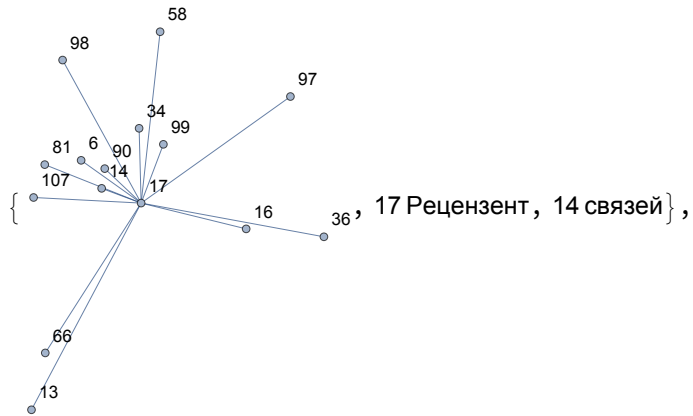
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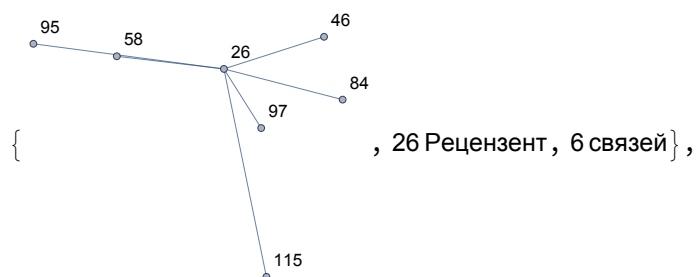
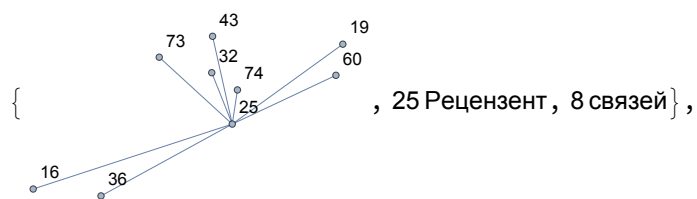
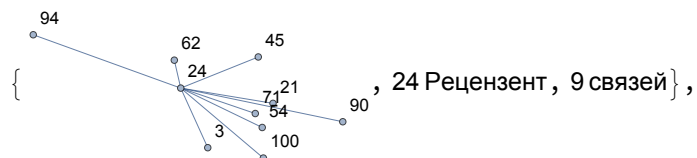
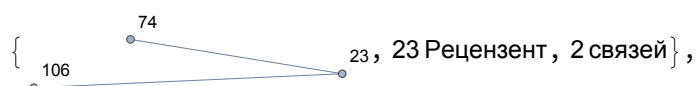
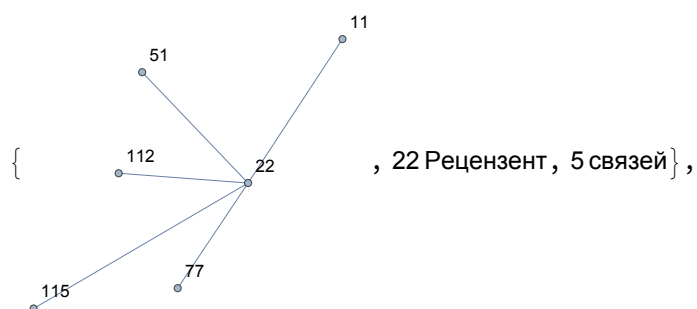
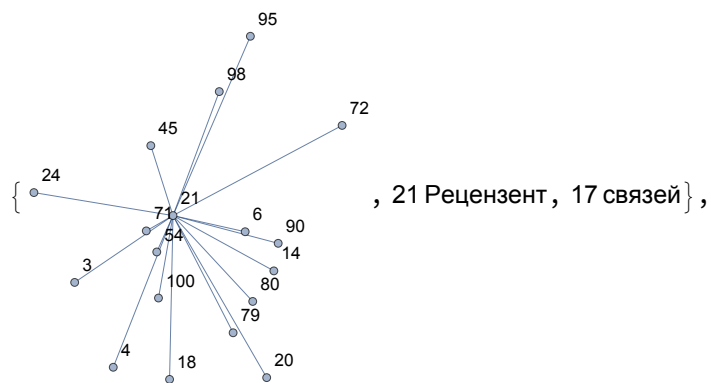


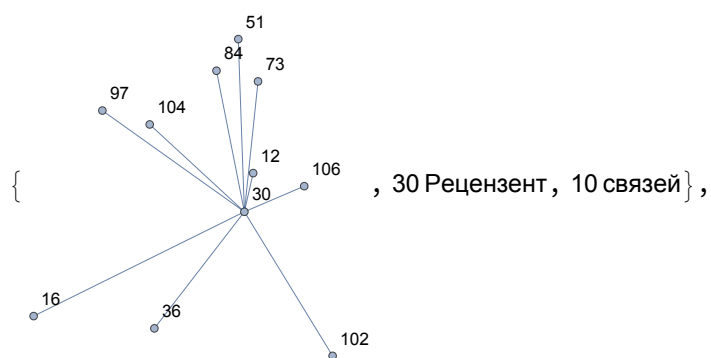
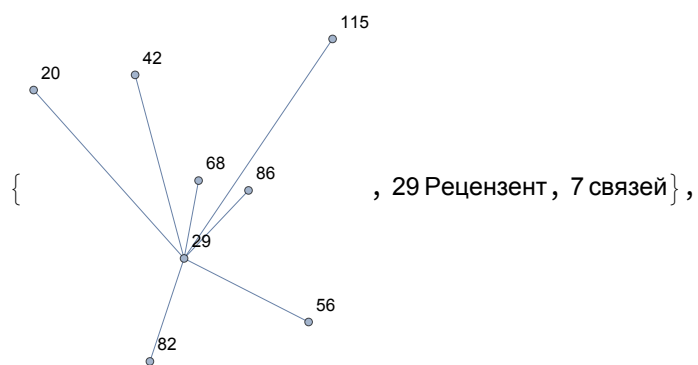
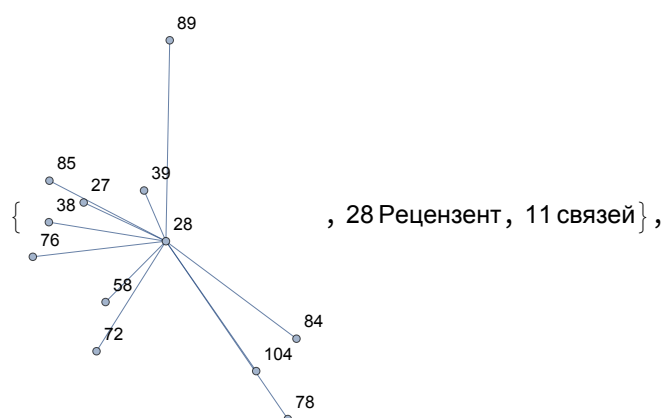
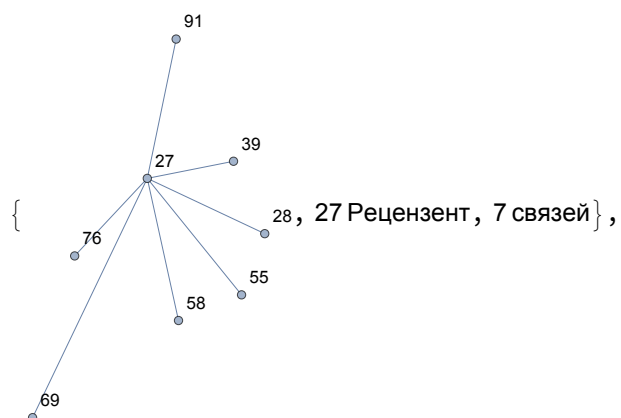


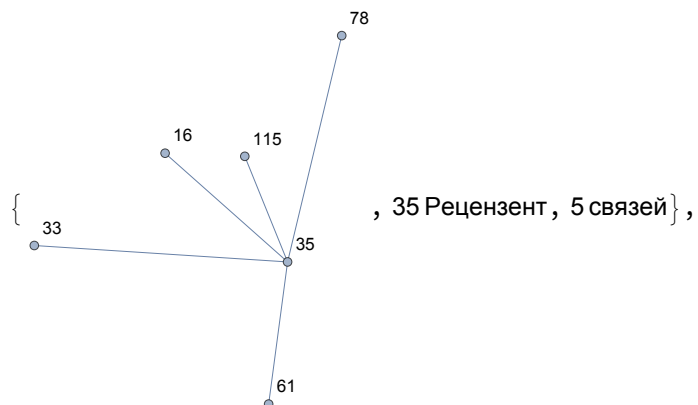
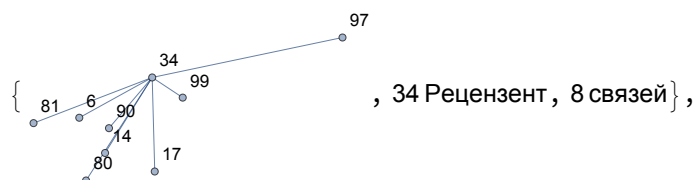
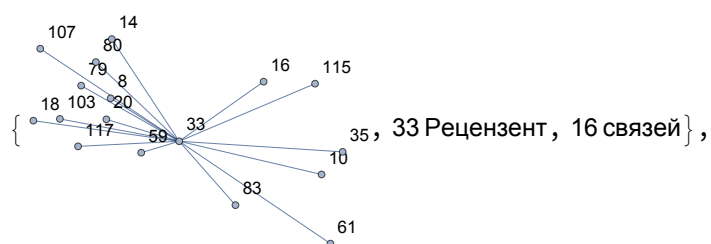
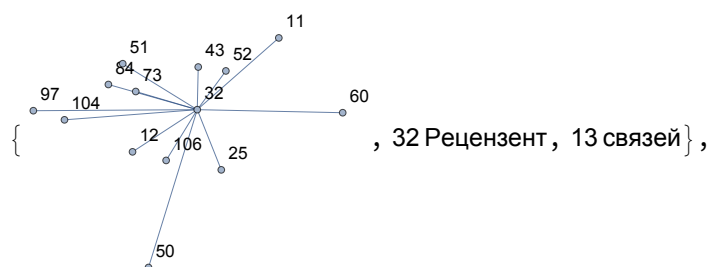
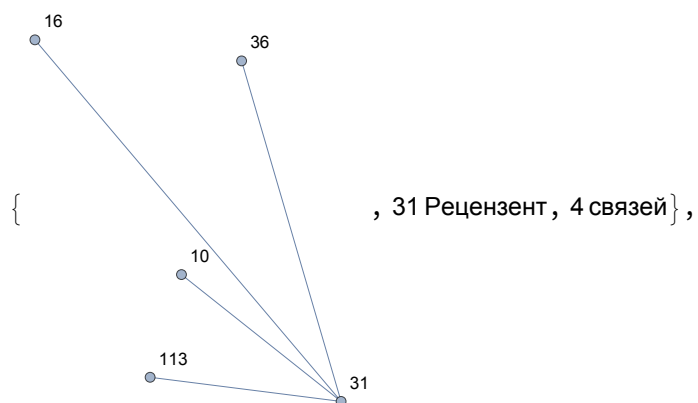


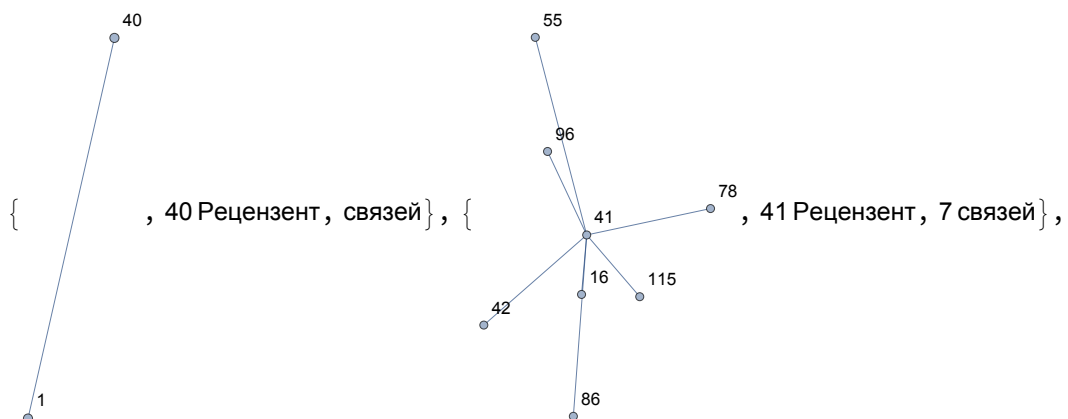
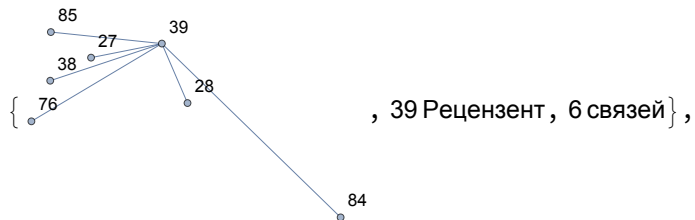
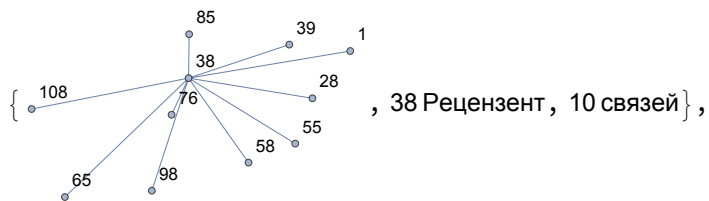
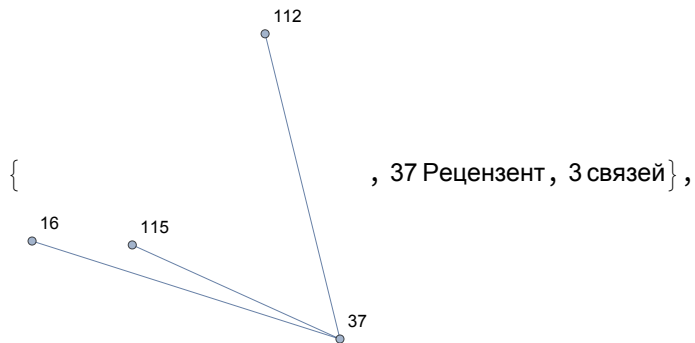
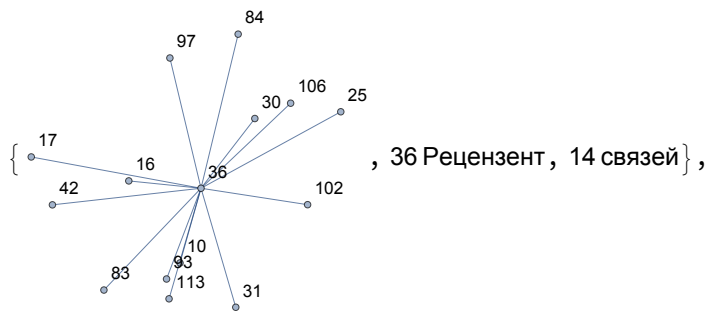


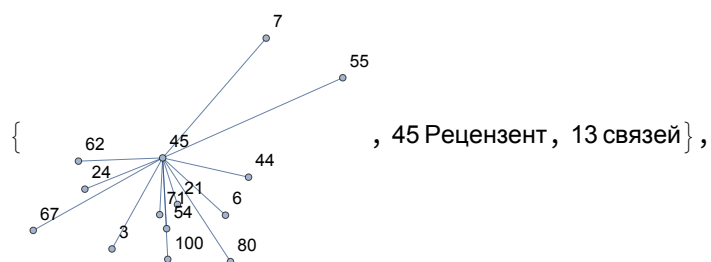
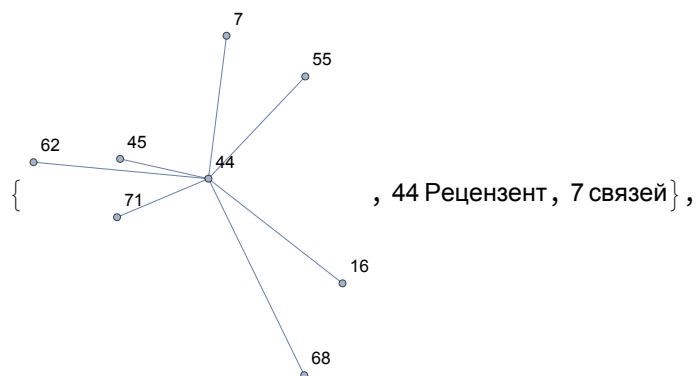
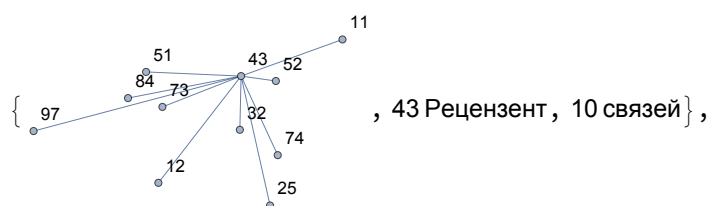
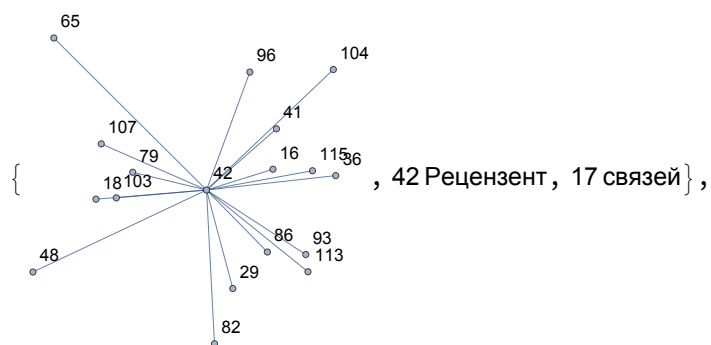


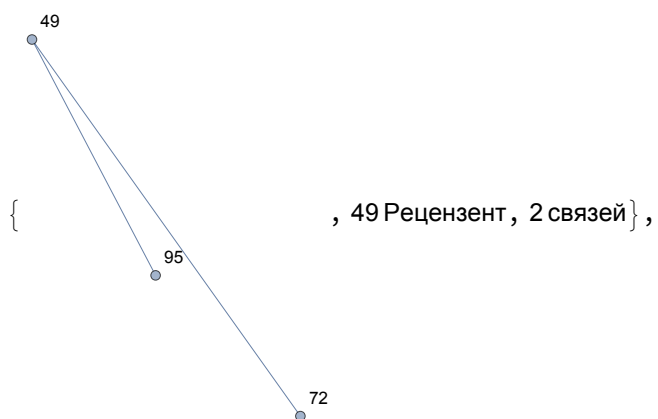
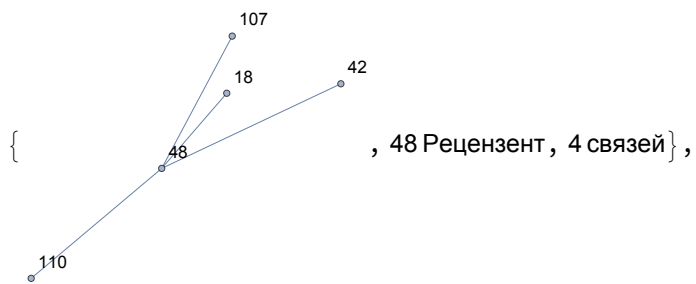
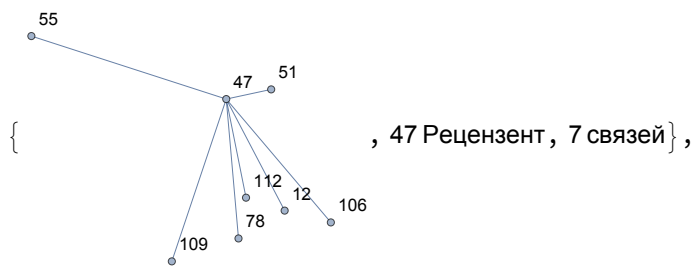
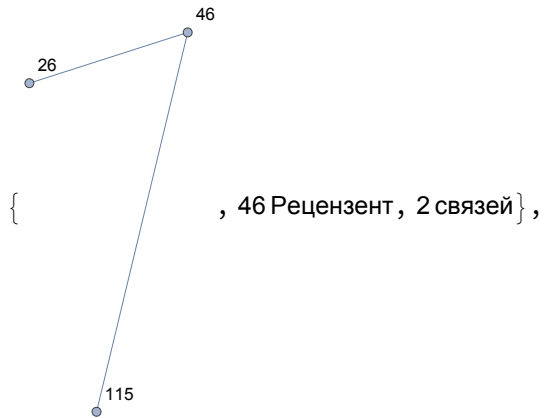


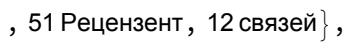


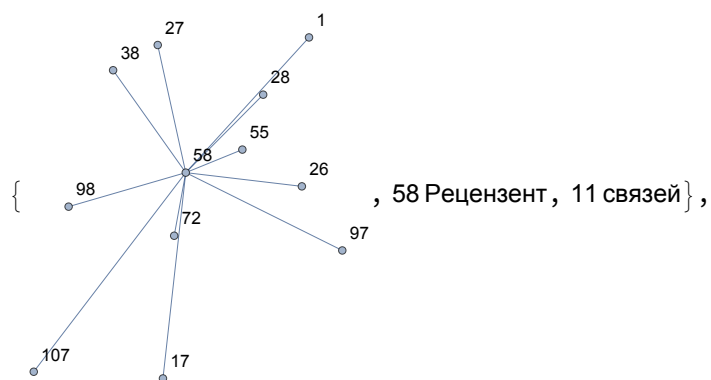
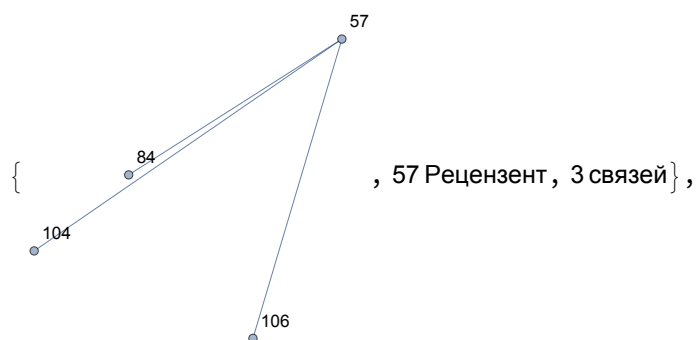
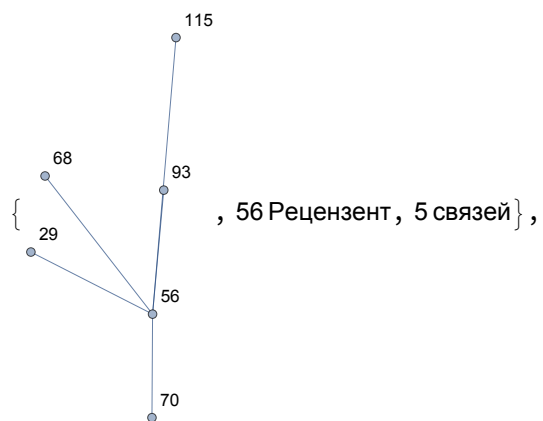
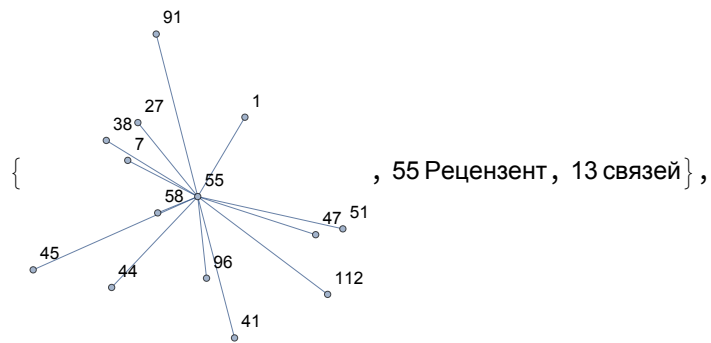


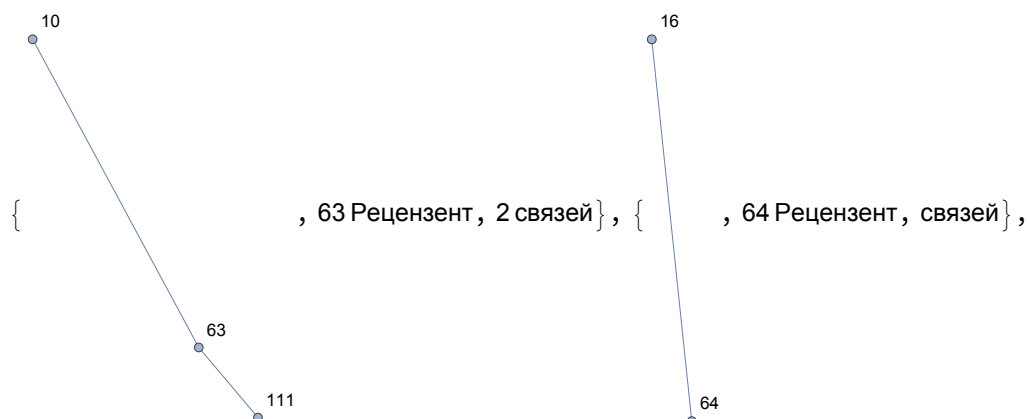
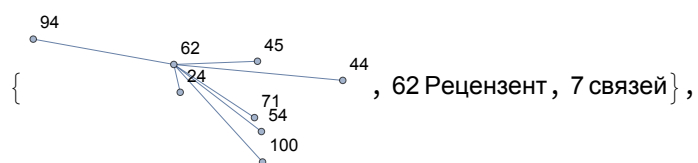
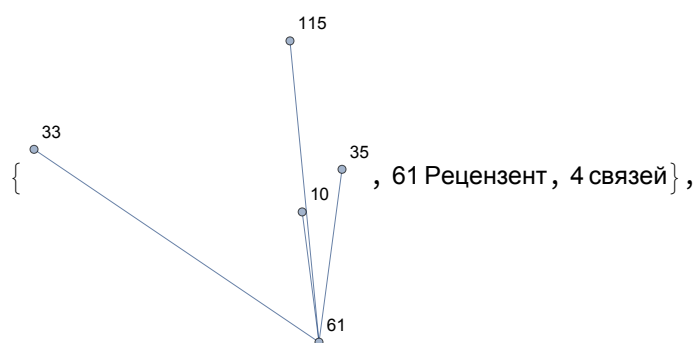
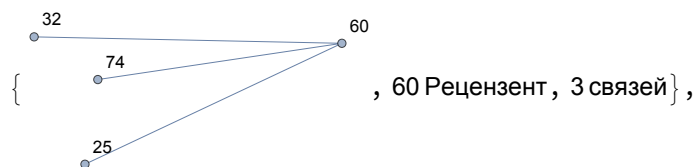
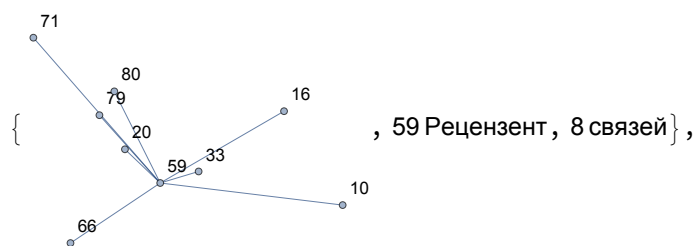


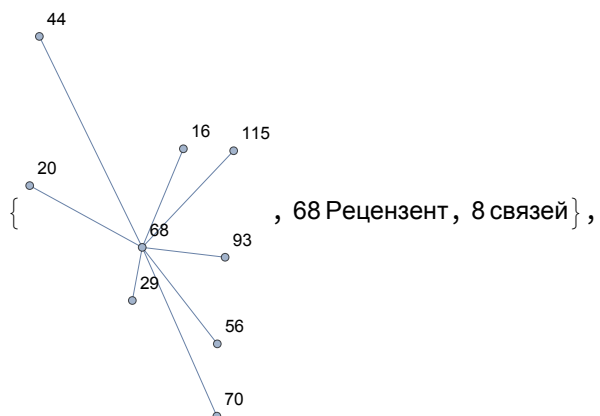
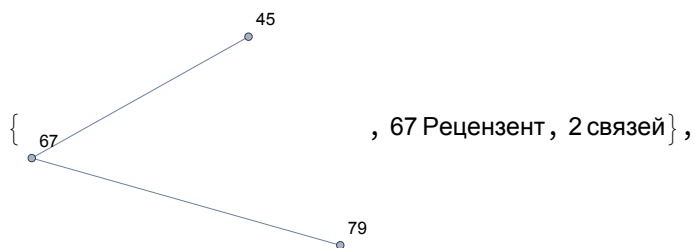
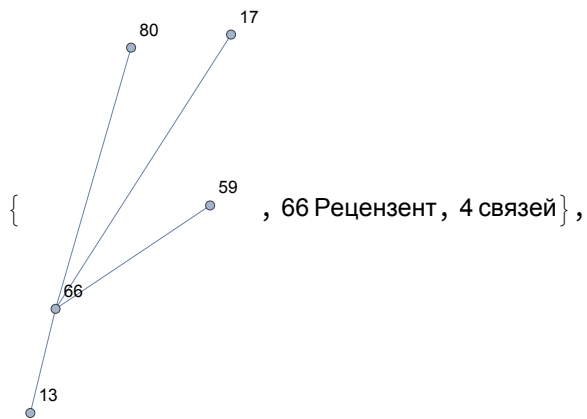
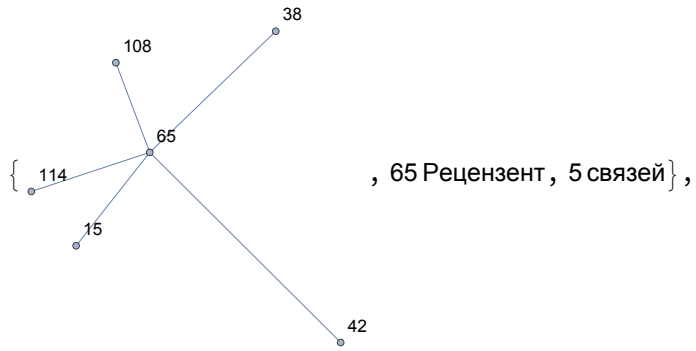


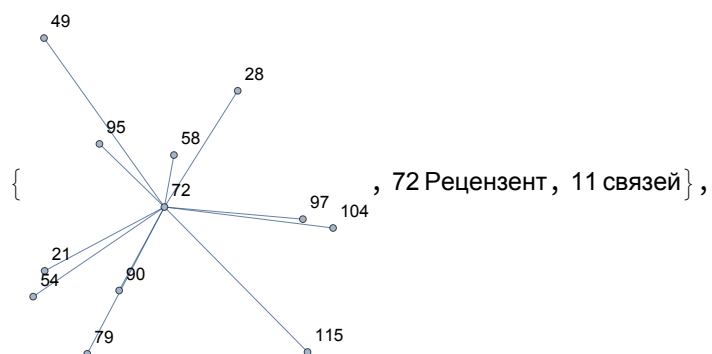
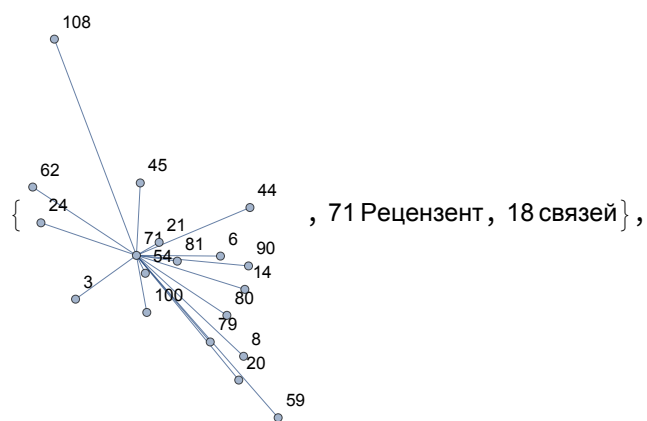
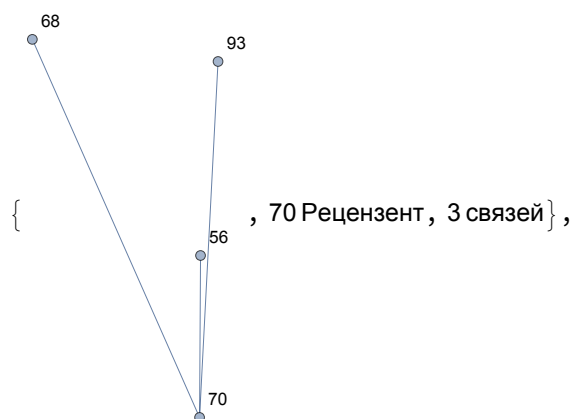
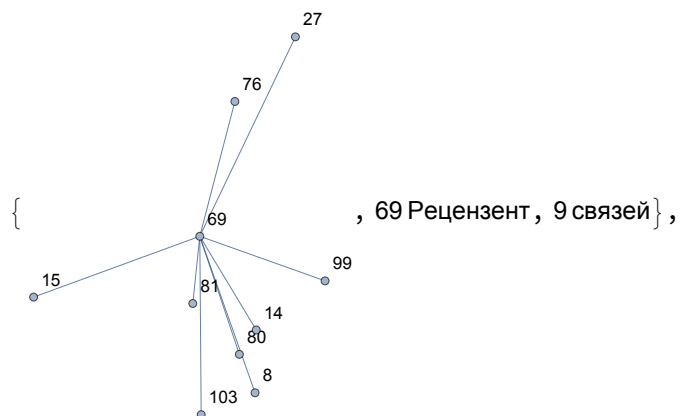


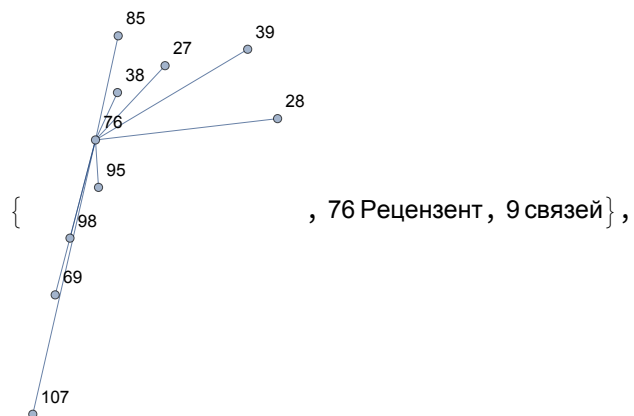
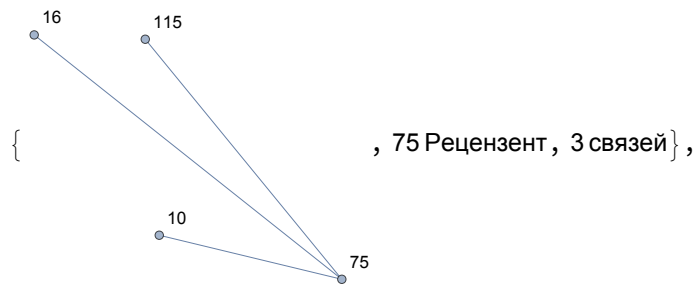
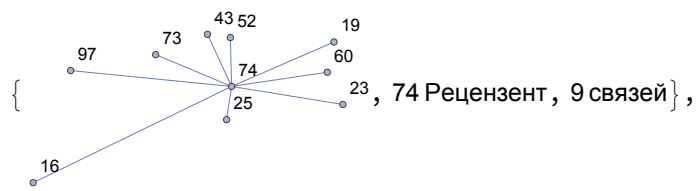
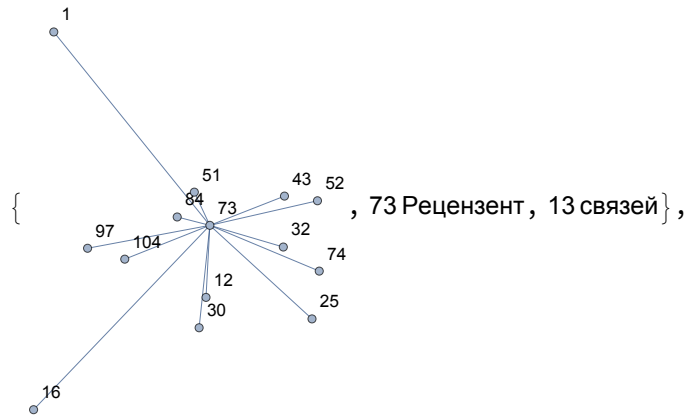


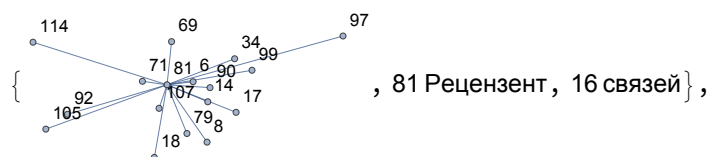
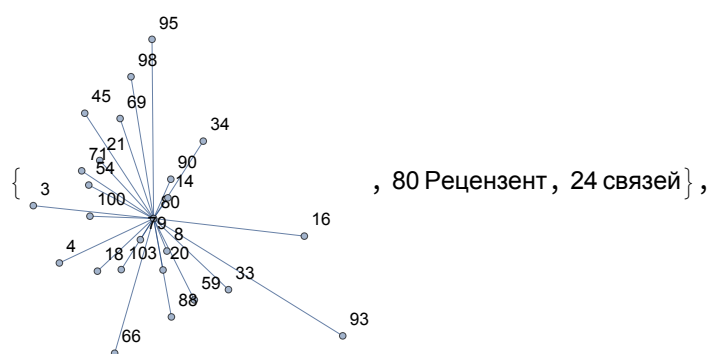
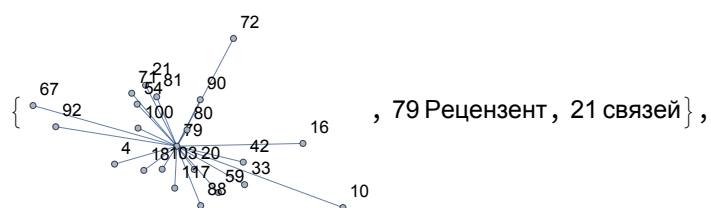
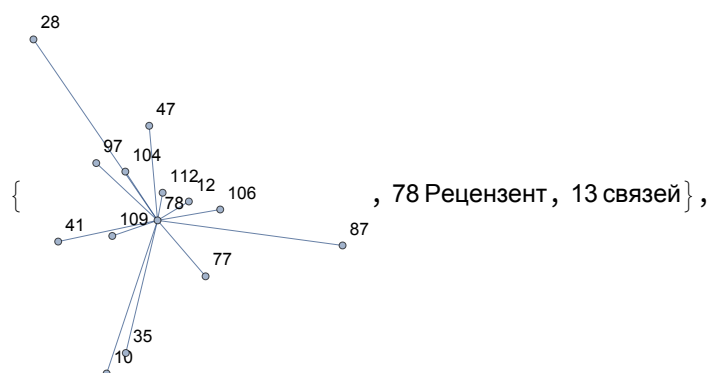
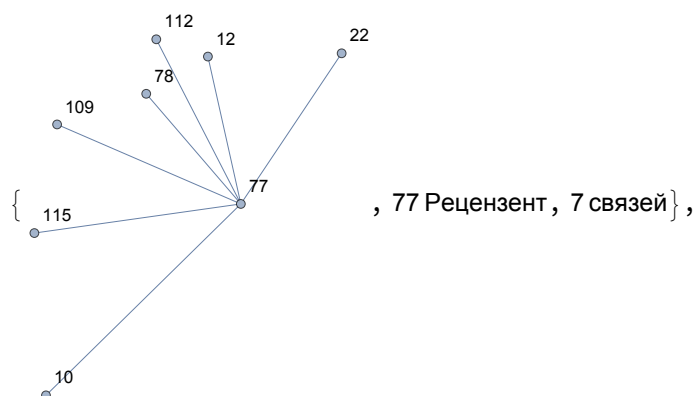


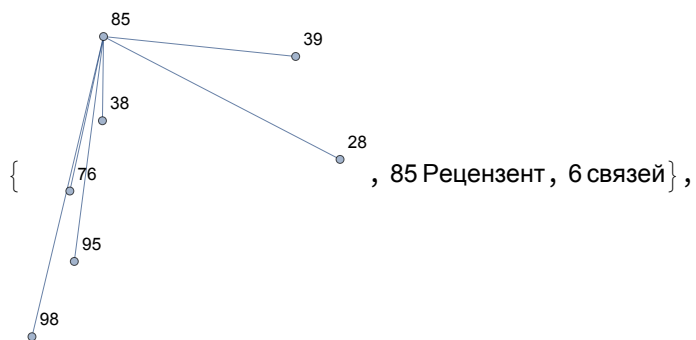
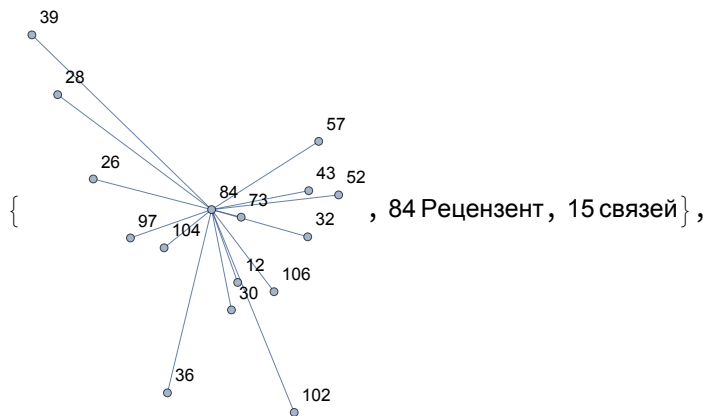
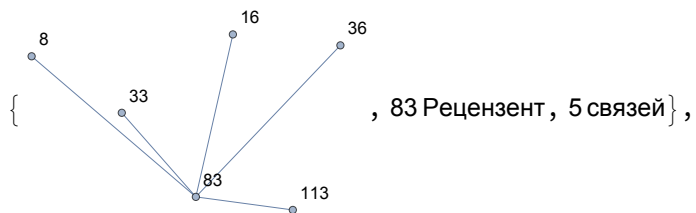
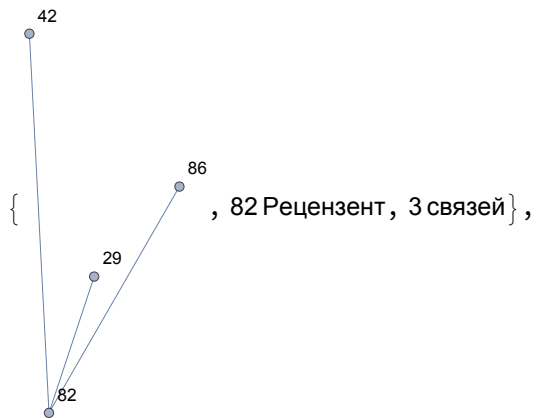


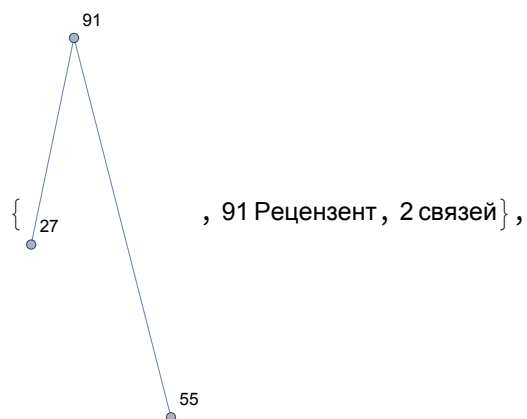
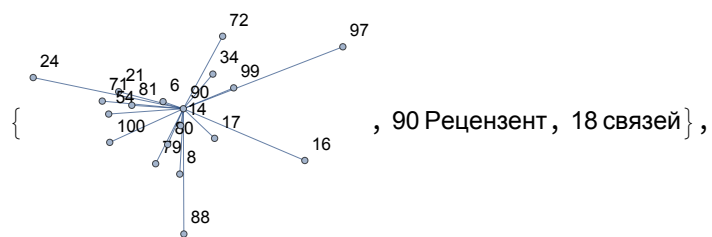
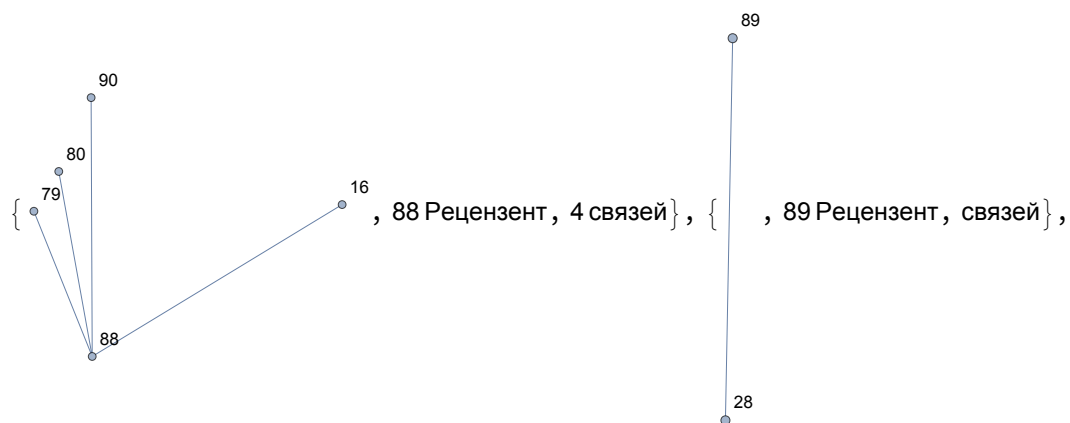
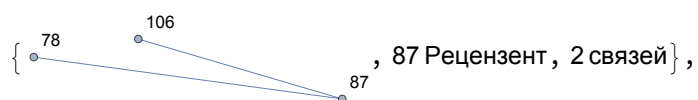
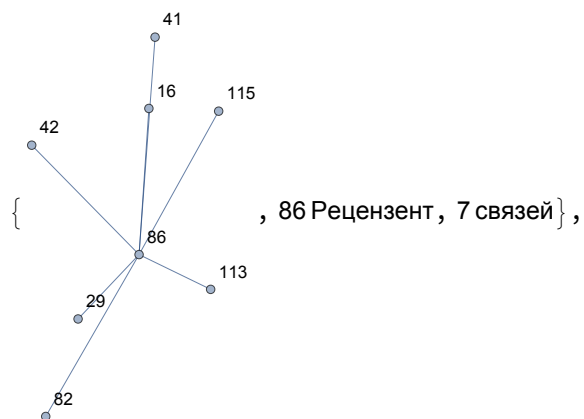


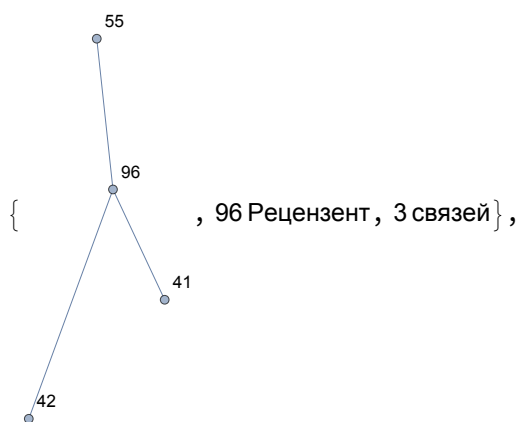
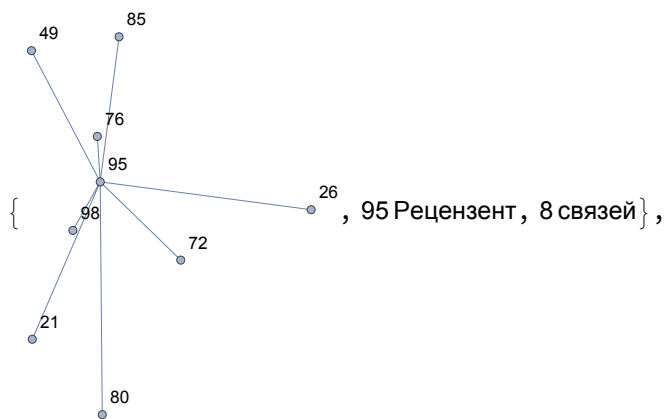
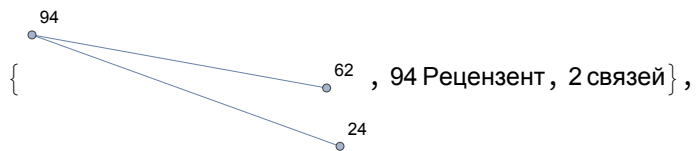
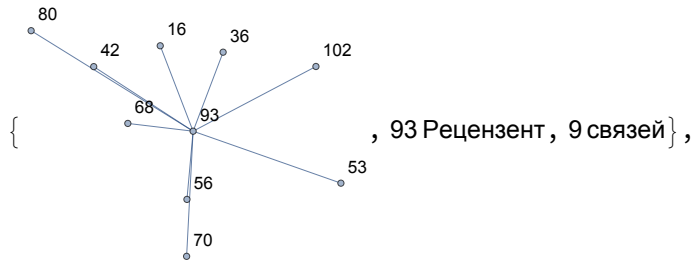
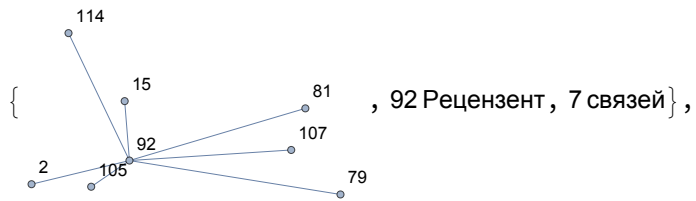




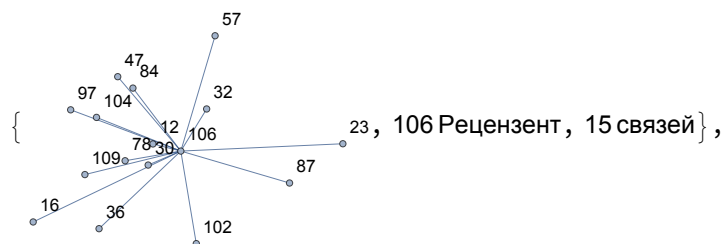
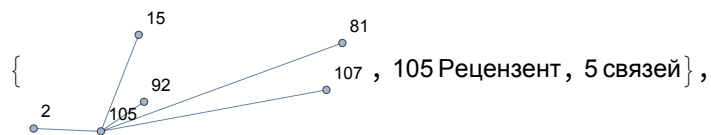
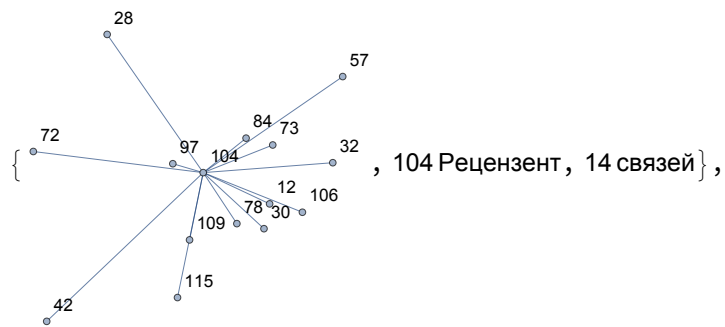
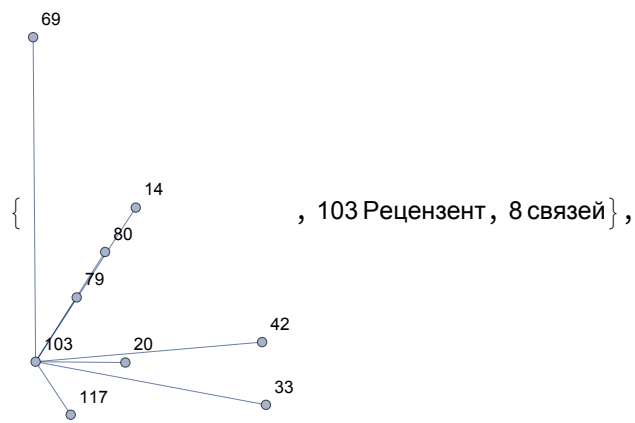
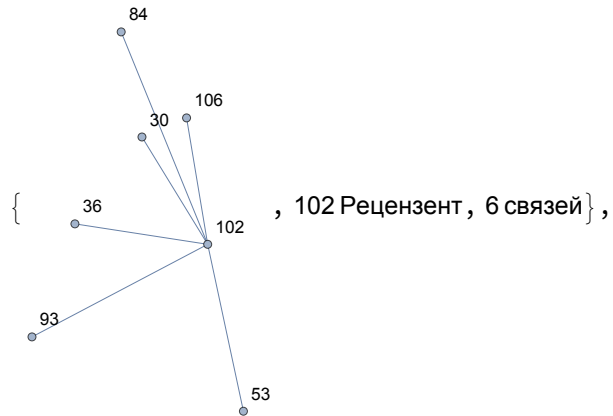


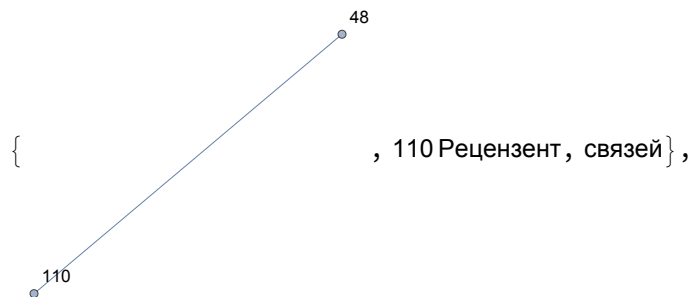
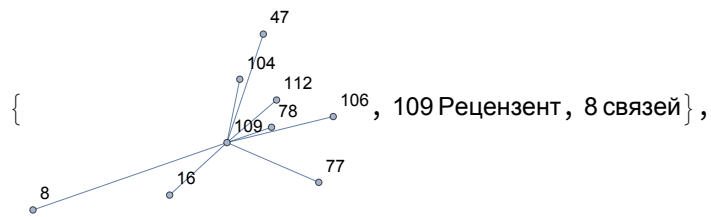
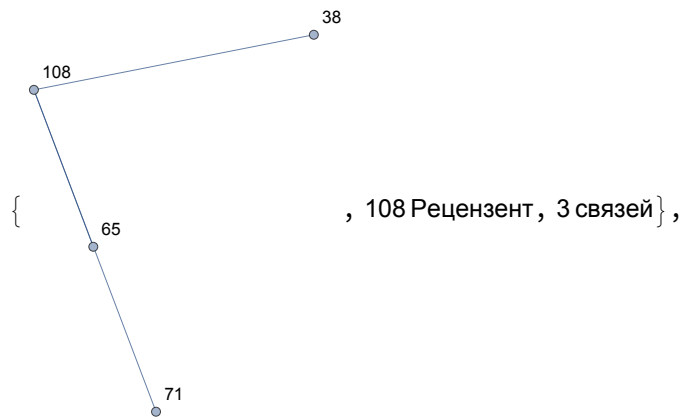
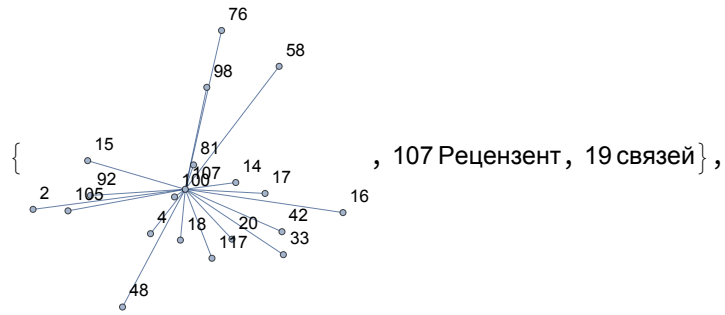


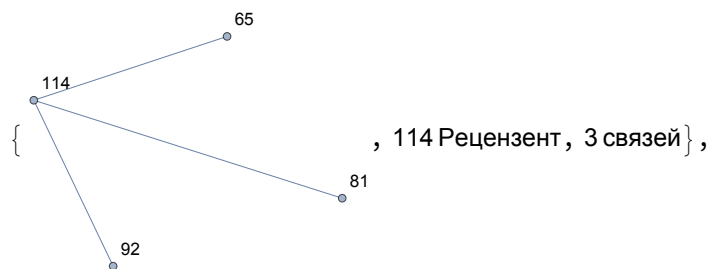
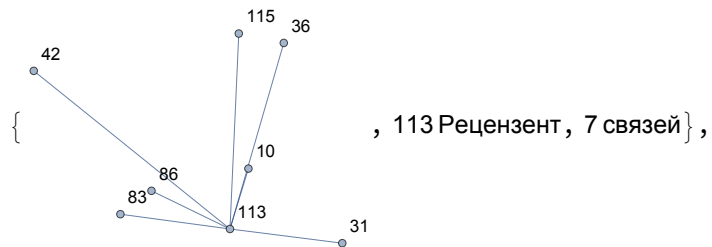
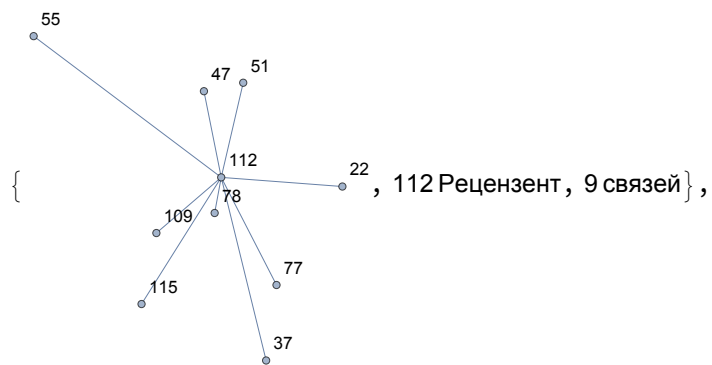


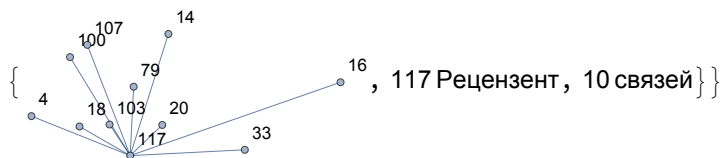
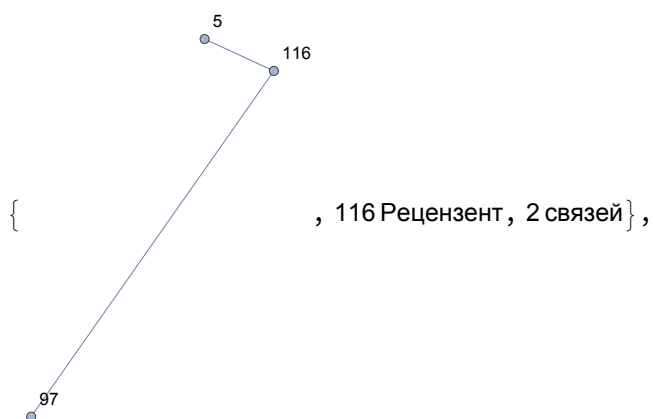
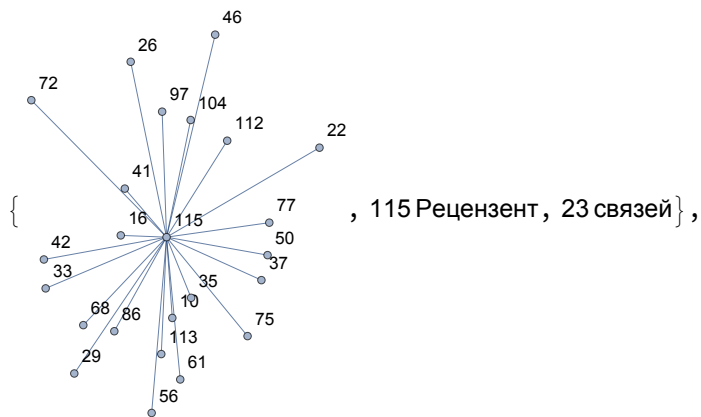






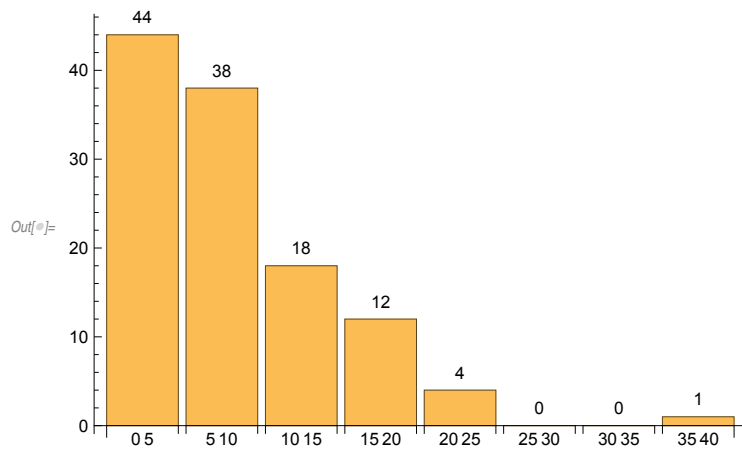






In[]:=

```
BarChart[
  столбиковая диаграмма
  Table[Count[Table[EdgeCount[FindSpanningTree[NeighborhoodGraph[a12, i]]],
    табл... |встре...|табл... |число рёбер |найти остовное деревс|граф окрестности
    {i, 1, 117}], x_ /; 5 * j < x ≤ 5 * (j + 1)], {j, 0, 7}], LabelingFunction -> Above,
    функция создания отм... |сверху
  ChartLabels -> Table[Text[i * 5] × Text[(i + 1) * 5], {i, 0, 7}]
    пометки для ди... |табл... |текст |текст
```



In[]:=

NeighborhoodGraph[a12, 32,

граф окрестности

VertexLabels → Placed[Automatic, Center], VertexSize → 0.4]

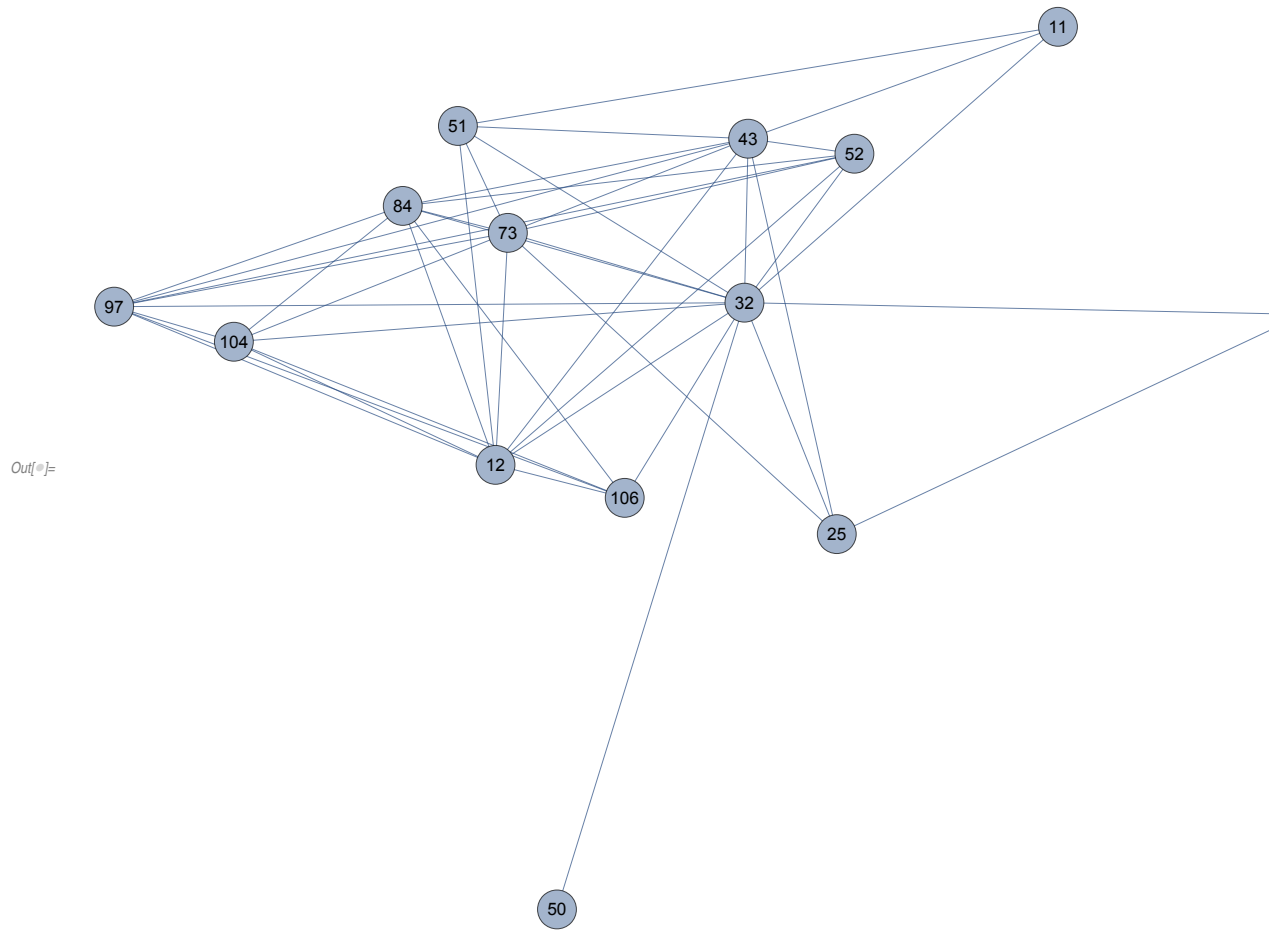
метки для вершин **распо...** **автоматиче...** **центр** **размер вершины**

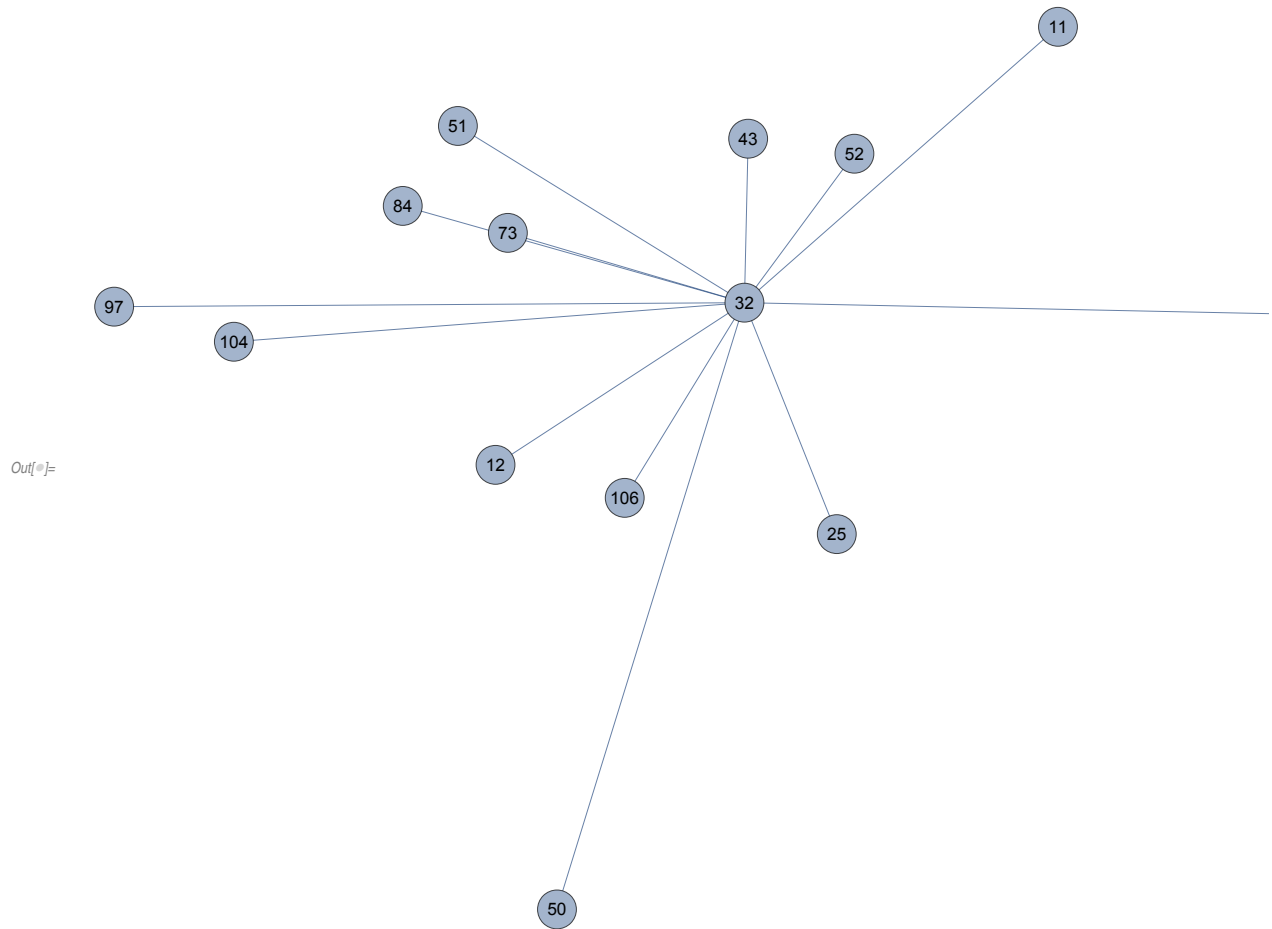
FindSpanningTree[NeighborhoodGraph[a12, 32,

найти остовное дерево **граф окрестности**

VertexLabels → Placed[Automatic, Center], VertexSize → 0.4]]

метки для вершин **распо...** **автоматиче...** **центр** **размер вершины**





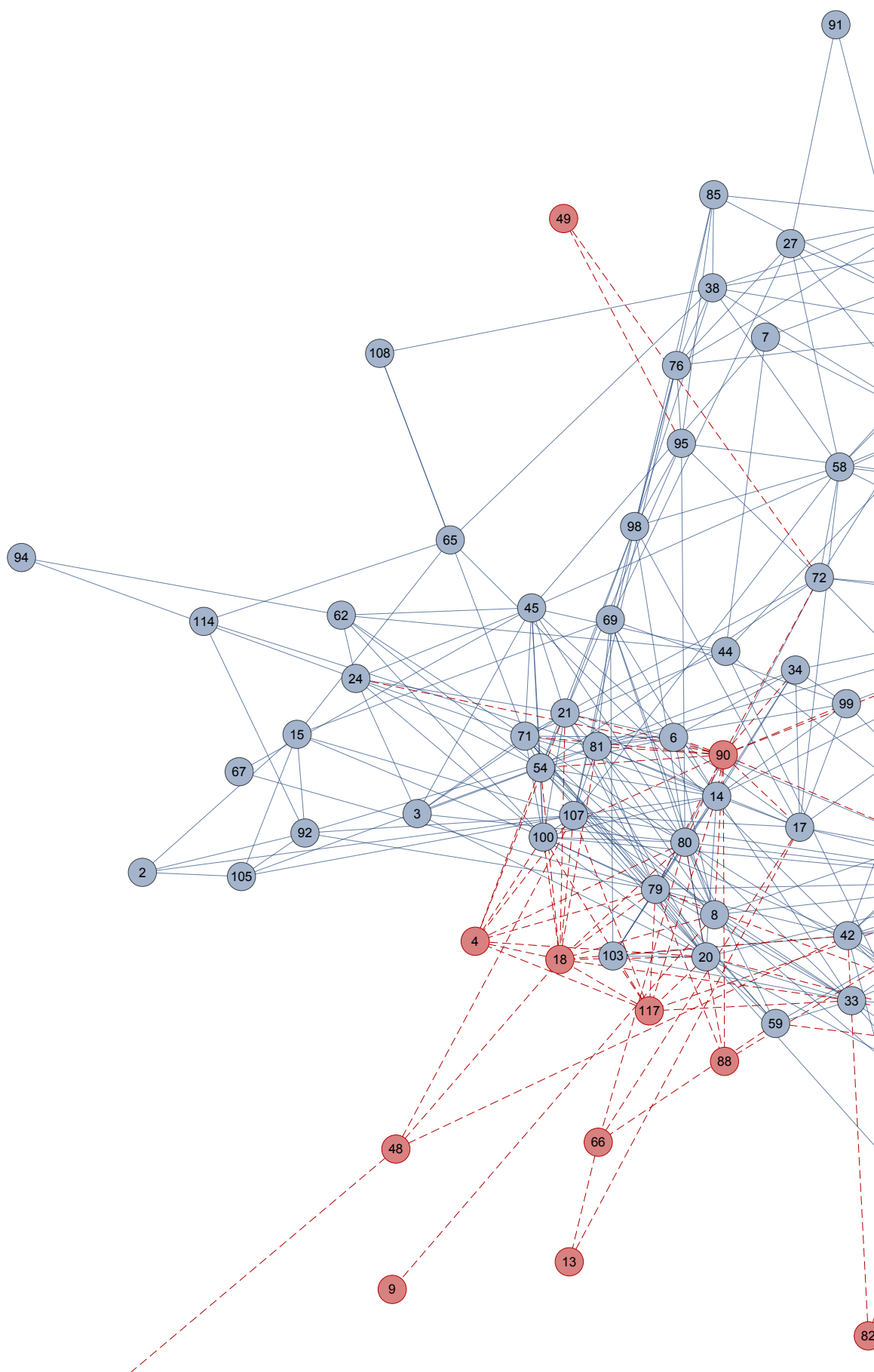
In[]:=

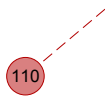
```

GraphPlot[a12,
  визуализация графа
  GraphHighlight → Flatten[{{4, 5, 9, 10, 13, 18, 23, 31, 48, 49, 53, 63,
  выделить в графе    упростить
    66, 70, 75, 82, 87, 88, 89, 90, 101, 110, 111, 117},
    {Flatten[Table[EdgeList[FindSpanningTree[NeighborhoodGraph[a12, i]]],
    упростить табл... список р... найти остовное деревс граф окрестности
      {i, {4, 5, 9, 10, 13, 18, 23, 31, 48, 49, 53, 63, 66,
        70, 75, 82, 87, 88, 89, 90, 101, 110, 111, 117}}]}]}],
  GraphHighlightStyle → "Dashed", VertexLabels → Placed[Automatic, Center],
  стиль выделенных элементов штрихов... метки для вершин распо... автоматиче... центр
  VertexSize → 0.8]
  размер вершины

```

Out[]:=





In[]:=

```
EdgeCount[a2] / EdgeCount[CompleteGraph[15]] // RealAbs
```

число рёбер число рёбер полный граф абсолютная величина действительн

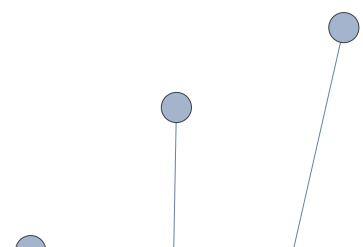
```
HighlightGraph[a12,
```

граф с подкраской

```
Graph[{100 ↔ 107, 14 ↔ 100, 14 ↔ 103, 14 ↔ 107, 14 ↔ 17, 14 ↔ 20, 14 ↔ 21,
14 ↔ 54, 14 ↔ 71, 14 ↔ 80, 14 ↔ 81, 14 ↔ 90, 17 ↔ 107, 17 ↔ 81, 17 ↔ 90,
20 ↔ 100, 20 ↔ 103, 20 ↔ 107, 20 ↔ 21, 20 ↔ 54, 20 ↔ 71, 20 ↔ 79, 20 ↔ 80,
21 ↔ 100, 21 ↔ 54, 21 ↔ 71, 21 ↔ 79, 21 ↔ 80, 21 ↔ 90, 54 ↔ 100, 54 ↔ 71,
54 ↔ 79, 54 ↔ 80, 54 ↔ 90, 6 ↔ 14, 6 ↔ 17, 6 ↔ 21, 6 ↔ 54, 6 ↔ 71, 6 ↔ 8,
6 ↔ 81, 6 ↔ 90, 71 ↔ 100, 71 ↔ 79, 71 ↔ 80, 71 ↔ 81, 71 ↔ 90, 79 ↔ 100,
79 ↔ 103, 79 ↔ 80, 79 ↔ 81, 79 ↔ 90, 8 ↔ 100, 8 ↔ 54, 8 ↔ 71, 8 ↔ 80,
8 ↔ 81, 8 ↔ 90, 80 ↔ 100, 80 ↔ 103, 80 ↔ 90, 81 ↔ 107, 81 ↔ 90, 90 ↔ 100},
VertexLabels → Automatic], VertexLabels → Placed[Automatic, Center]]
```

метки для вершин автоматическ... метки для вершин распо... автоматическ... центр

Out[]:=
64
105



Out[]:=




```

In[ ]:= HighlightGraph[a11, {60 ↔ 25, 25 ↔ 74, 60 ↔ 74, 74, 60, 25},
  |граф с подкраской
  VertexLabels → Placed[Automatic, Center]]
  |метки для вершин |распо... |автоматиче... |центр

```

Out[]:=



