Archimedean Graph

Author

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This notebook downloaded from http://mathworld.wolfram.com/notebooks/GraphTheory/ArchimedeanGraph.nb.

For more information, see Eric's *MathWorld* entry http://mathworld.wolfram.com/ArchimedeanGraph.html.

For a list of Eric's math packages that may be needed to evaluate this notebook, see *Mathematica Information Center*'s MathSource item 4775. A list of Eric's utility packages that may be needed to evaluate this notebook may be downloaded from MathSource item 5087.

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Initialization

```
In[1]:= << MathWorld`Graphs`

        Get::noopen : Cannot open MathWorld`Graphs`. >>

Out[1]= $Failed
```

Enumeration

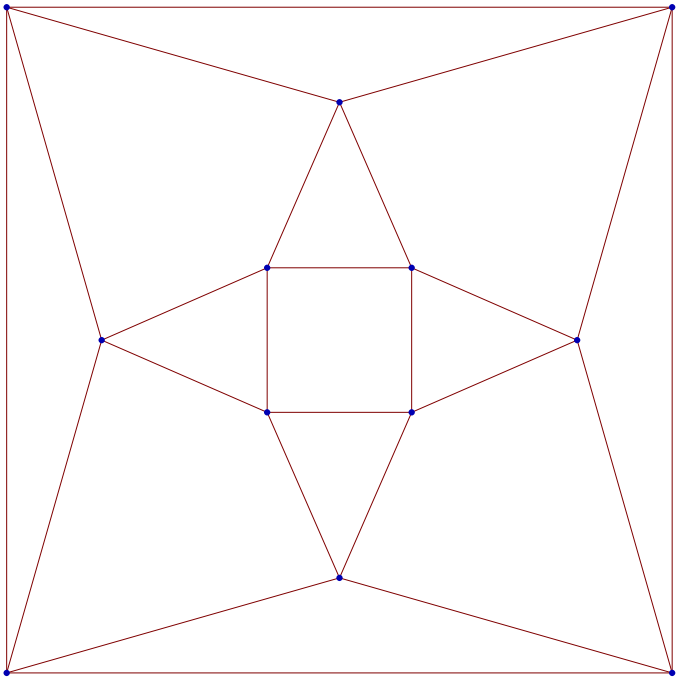
```
Grid[GraphData["Archimedean", {"Name", "V", "M", "|Aut|", "Hamiltonian", "Eulerian",
     "VertexTransitive", "EdgeTransitive"}] /. {True -> "yes", False -> "no", _Missing → "?"},
  Alignment → {{Left, Right, Right, Right}, Automatic}, Frame → All] // TraditionalForm
```

cuboctahedral graph	12	24	48	yes	yes	yes	yes
great rhombicosidodecahedral graph	120	180	120	yes	no	yes	no
great rhombicuboctahedral graph	48	72	48	yes	no	yes	no
icosidodecahedral graph	30	60	120	yes	yes	yes	yes
small rhombicosidodecahedral graph	60	120	120	yes	yes	yes	no
small rhombicuboctahedral graph	24	48	48	yes	yes	yes	no
snub cubical graph	24	60	24	yes	no	yes	no
snub dodecahedral graph	60	150	60	yes	no	yes	no
truncated cubical graph	24	36	48	yes	no	yes	no
truncated dodecahedral graph	60	90	120	yes	no	yes	no
truncated icosahedral graph	60	90	120	yes	no	yes	no
truncated octahedral graph	24	36	48	yes	no	yes	no
truncated tetrahedral graph	12	18	24	yes	no	yes	no

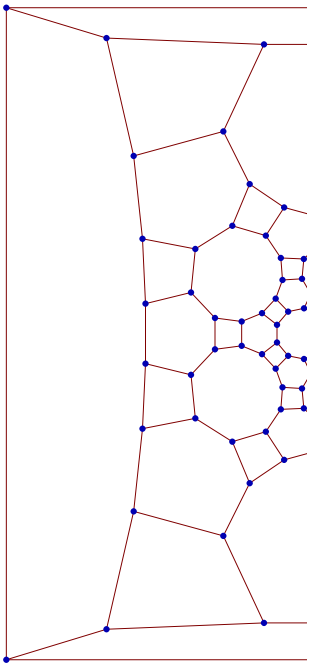
Graphics

In[3]:=
```
GraphicsGrid[
 Partition[Show[GraphData[#], PlotLabel → TextCell[Style[GraphData[#, "Name"]], PageWidth → 95,
        LineSpacing → {1, 0}, TextAlignment → Center]] & /@ GraphData["Archimedean"] /.
   AbsolutePointSize[_] :→ AbsolutePointSize[3], 4, 4, {1, 1}, {}], ImageSize → 1600,
 Spacings → {-20, Automatic}, BaseStyle → {FontSlant → Italic}]
```

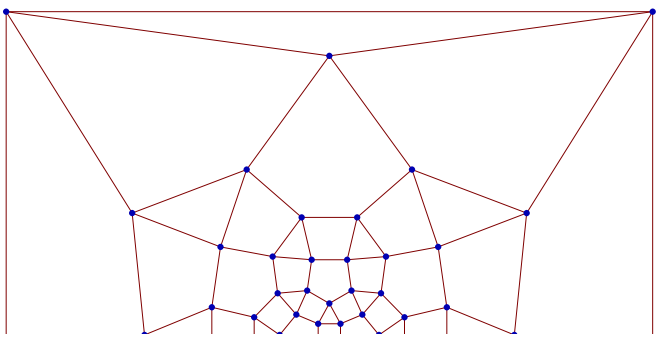
cuboctahedral graph



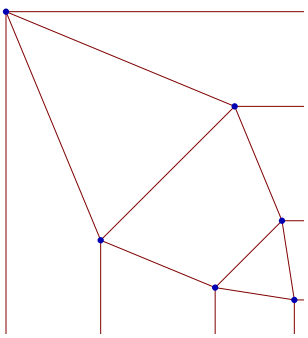
rhombi ahed

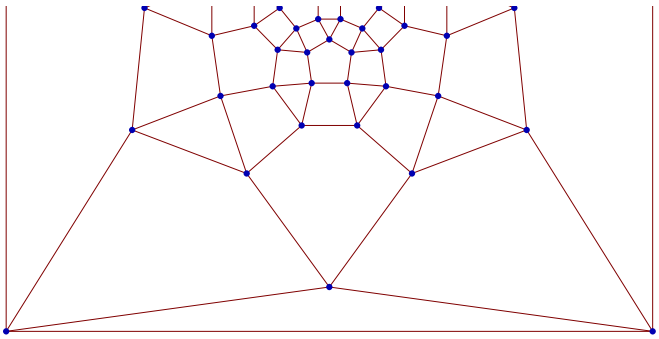


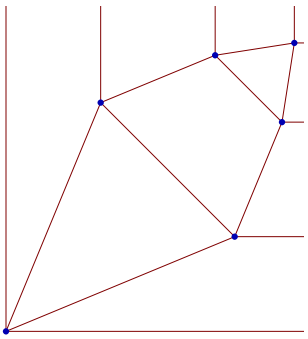
small rhombicosidodec⋱ ahedral graph



rhombi dra



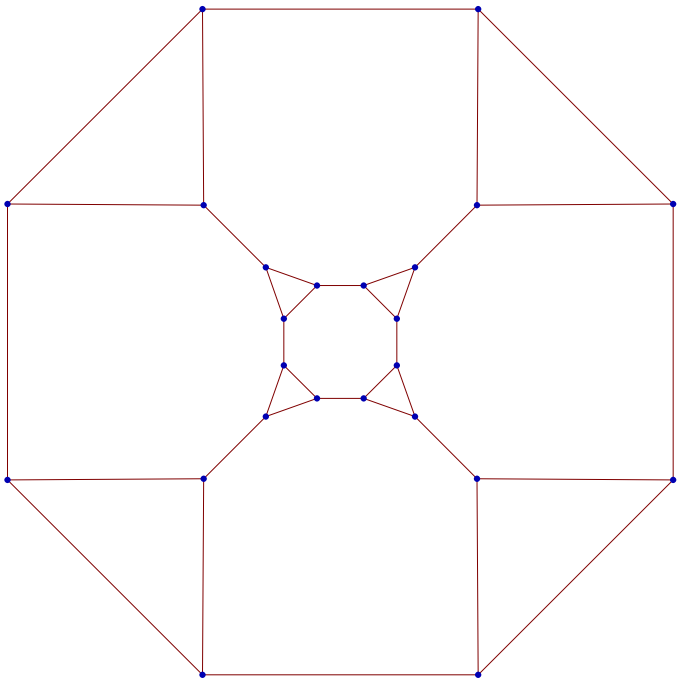


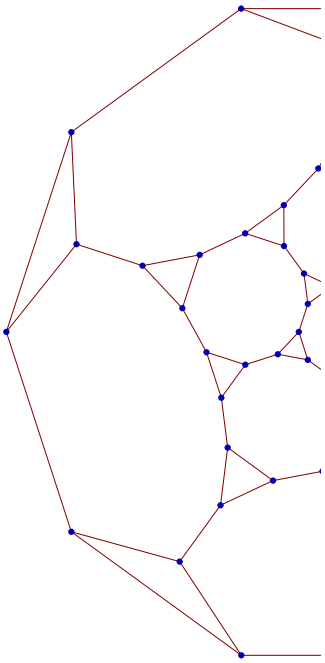
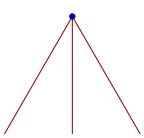
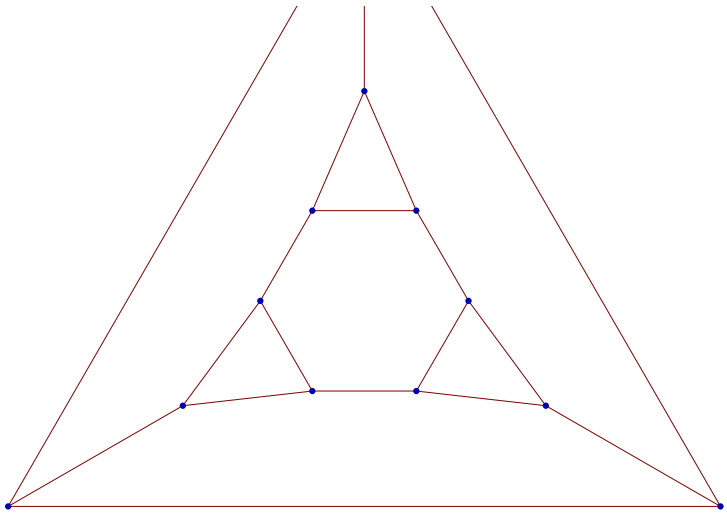


Out[3]=

truncated cubical graph

tru dode





truncated tetrahedral graph