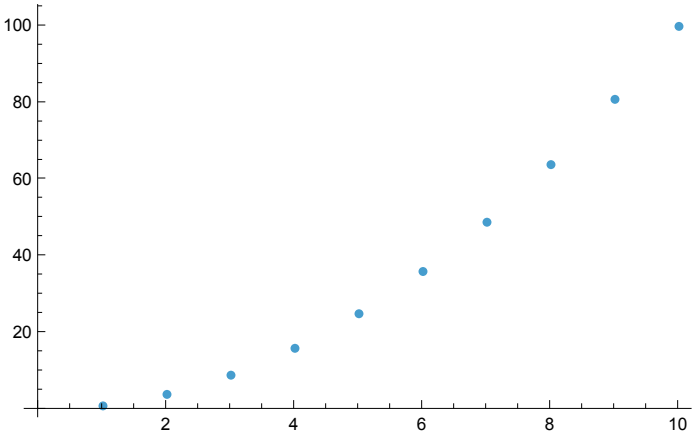
Jeremy — PS 2 — 2025-01-21

Exercises from EIWL3 Section 5

In[64]:=
```
Reverse[Table[n^2, {n, 10}]]
```
Out[64]=
```
{100, 81, 64, 49, 36, 25, 16, 9, 4, 1}
```

In[65]:=
```
Total[Table[n^2, {n, 10}]]
```
Out[65]=
```
385
```

In[66]:=
```
ListPlot[Table[n^2, {n, 10}]]
```
Out[66]=



In[67]:=
```
Sort[Join[Range[4], Range[4]]]
```
Out[67]=
```
{1, 1, 2, 2, 3, 3, 4, 4}
```

In[68]:=
```
Range[10, 20]
```
Out[68]=
```
{10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20}
```

In[69]:=
```
Sort[Join[Table[n^2, {n, 5}], Table[n^3, {n, 5}]]]
```
Out[69]=
```
{1, 1, 4, 8, 9, 16, 25, 27, 64, 125}
```

In[70]:=
```
Length[IntegerDigits[2^128]]
```
Out[70]=
```
39
```

In[71]:=
```
First[IntegerDigits[2^32]]
```
Out[71]=
```
4
```

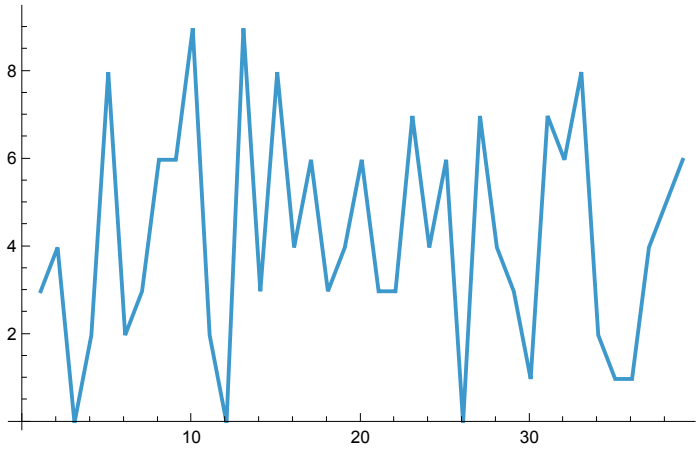
In[72]:=
```
Table[Part[IntegerDigits[2^100], n], {n, 10}]
```
Out[72]=
```
{1, 2, 6, 7, 6, 5, 0, 6, 0, 0}
```

In[73]:=
```
Last[Sort[IntegerDigits[2^20]]]
```
Out[73]=
```
8
```

In[74]:=
```
Count[IntegerDigits[2^1000], 0]
```
Out[74]=
```
28
```

In[75]:=
```
Part[Sort[IntegerDigits[2^20]], 2]
```
Out[75]=
```
1
```

In[76]:=
```
ListLinePlot[IntegerDigits[2^128]]
```
Out[76]=



In[77]:=
```
Drop[Take[Range[100], 20], 10]
```
Out[77]=
```
{11, 12, 13, 14, 15, 16, 17, 18, 19, 20}
```

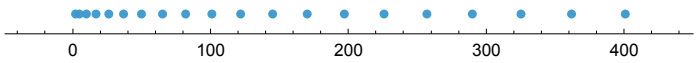
Exercises from EIWL3 Section 6

In[78]:=
```
Table[1000, 5]
```
Out[78]=
```
{1000, 1000, 1000, 1000, 1000}
```

In[79]:=
```
Table[n^3, {n, 10, 20}]
```
Out[79]=
```
{1000, 1331, 1728, 2197, 2744, 3375, 4096, 4913, 5832, 6859, 8000}
```

In[80]:=
```
NumberLinePlot[Table[n^2, {n, 20}]]
```

Out[80]=



In[81]:=
```
Table[n * 2, {n, 10}]
```

Out[81]=

```
{2, 4, 6, 8, 10, 12, 14, 16, 18, 20}
```

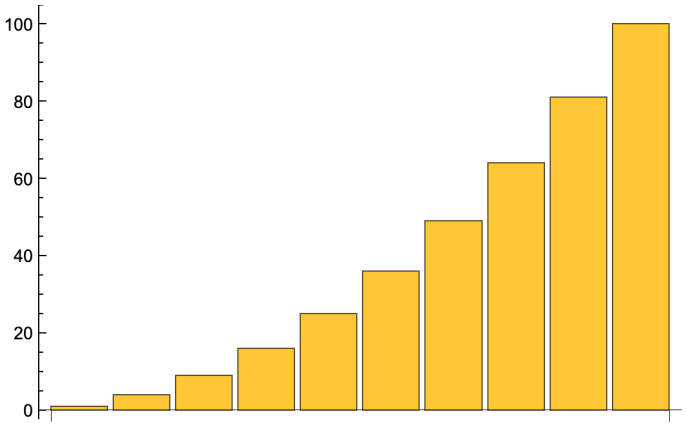
In[82]:=
```
Table[n, {n, 10}]
```

Out[82]=

```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

In[83]:=
```
BarChart[Table[n^2, {n, 10}]]
```

Out[83]=



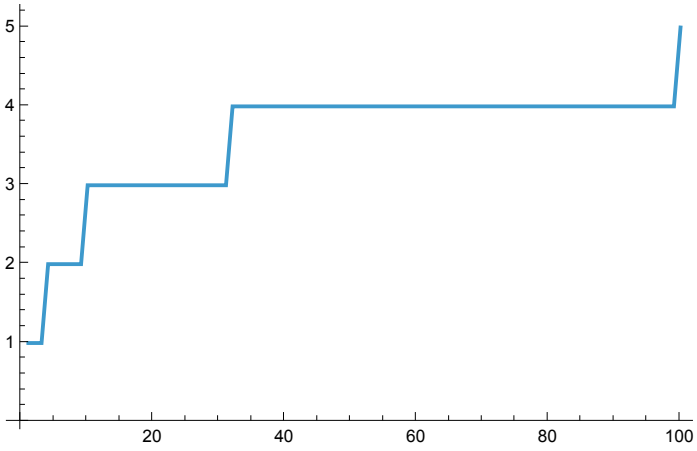
In[84]:=
```
Table[IntegerDigits[n^2], {n, 10}]
```

Out[84]=

```
{{1}, {4}, {9}, {1, 6}, {2, 5}, {3, 6}, {4, 9}, {6, 4}, {8, 1}, {1, 0, 0}}
```

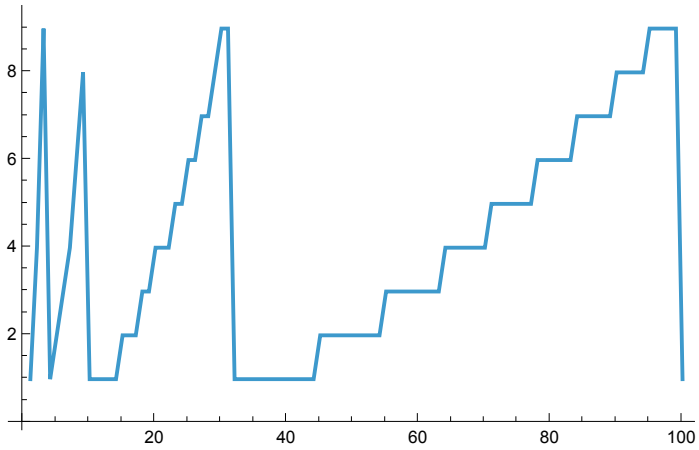
In[85]:=
```
ListLinePlot[Table[Length[IntegerDigits[n^2]], {n, 100}]]
```

Out[85]=



In[86]:=
```
Table[Part[IntegerDigits[n^2], 1], {n, 20}]
```
Out[86]=
```
{1, 4, 9, 1, 2, 3, 4, 6, 8, 1, 1, 1, 1, 1, 2, 2, 2, 3, 3, 4}
```

In[87]:=
```
ListLinePlot[Table[Part[IntegerDigits[n^2], 1], {n, 100}]]
```
Out[87]=



Exercises from EIWL3 Section 7

In[88]:=
```
{Red, Yellow, Green}
```
Out[88]=

In[89]:=
```
Column[{Red, Yellow, Green}]
```
Out[89]=

In[90]:=
```
ColorNegate[Orange]
```
Out[90]=

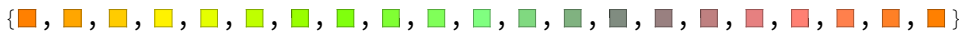
In[91]:=
```
Table[Hue[n], {n, 0, 1, 0.02}]
```
Out[91]=

In[92]:=
```
Table[RGBColor[1, n, 1], {n, 0, 1, 0.05}]
```
Out[92]=

In[93]:=
```
Blend[{Pink, Yellow}]
```
Out[93]=

In[94]:=
```
Table[Blend[{Yellow, Hue[n]}], {n, 0, 1, 0.05}]
```

Out[94]=



In[95]:=
```
Table[{n, Hue[n]}, {n, 0, 1, 0.1}]
```

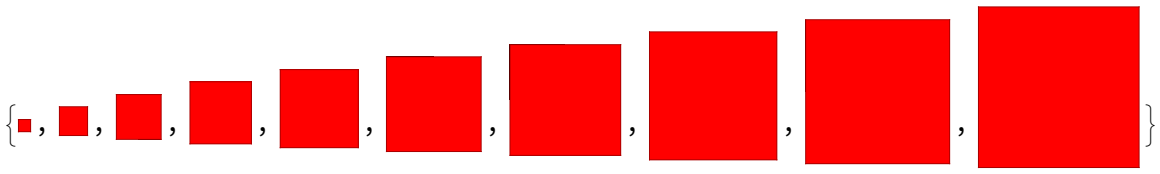
Out[95]=
```
{{0., }, {0.1, }, {0.2, }, {0.3, }, {0.4, },
 {0.5, }, {0.6, }, {0.7, }, {0.8, }, {0.9, }, {1., }}
```

In[96]:=
```
Style[Purple, 100]
```

Out[96]=

In[97]:=
```
Table[Style[Red, n], {n, 10, 100, 10}]
```

Out[97]=



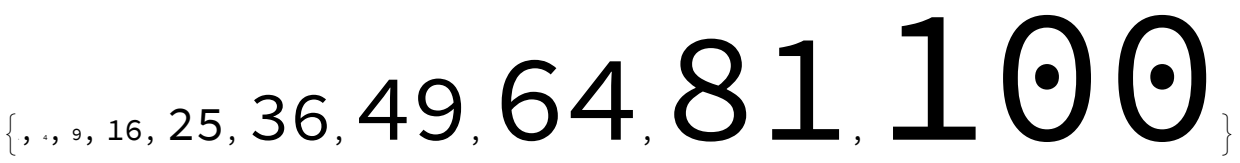
In[98]:=
```
Style[Style[999, Red], 100]
```

Out[98]=

999

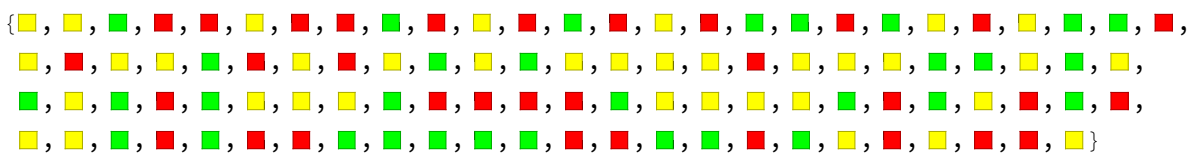
In[99]:=
```
Table[Style[n^2, n^2], {n, 10}]
```

Out[99]=



In[100]:=
```
Table[Part[{Red, Yellow, Green}, RandomInteger[2] + 1], 100]
```

Out[100]=



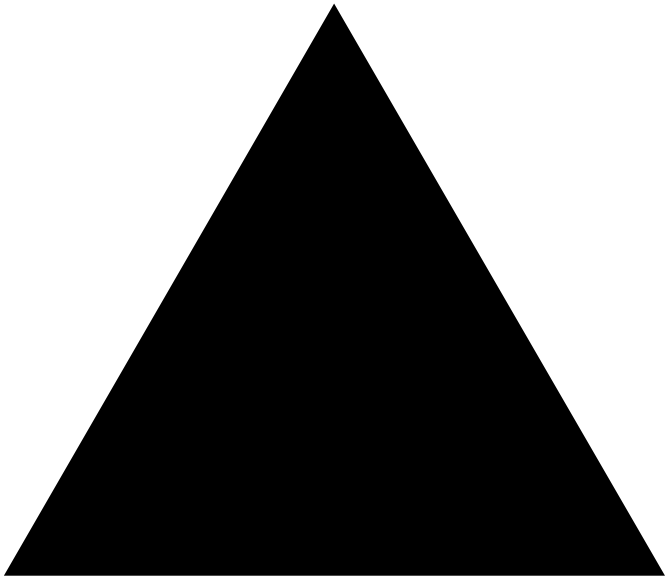
In[101]:=
```
Table[Style[Part[IntegerDigits[2^1000], n],
  3 * Part[IntegerDigits[2^1000], n]], {n, 50}]
```

Out[101]=
$$\{{}_{1},\ \ ,7,{}_{1},5,\ \ ,8,6,\ \ ,7,{}_{1},8,6,{}_{2},6,7,{}_{3},{}_{2},\ \ ,9,4,8,4,{}_{2},5,\ \ ,4,9,\ \ ,6,\ \ ,\ \ ,\ \ ,{}_{1},8,{}_{1},\ \ ,5,6,{}_{1},4,\ \ ,4,8,{}_{1},{}_{1},7,\ \ ,5,5\}$$

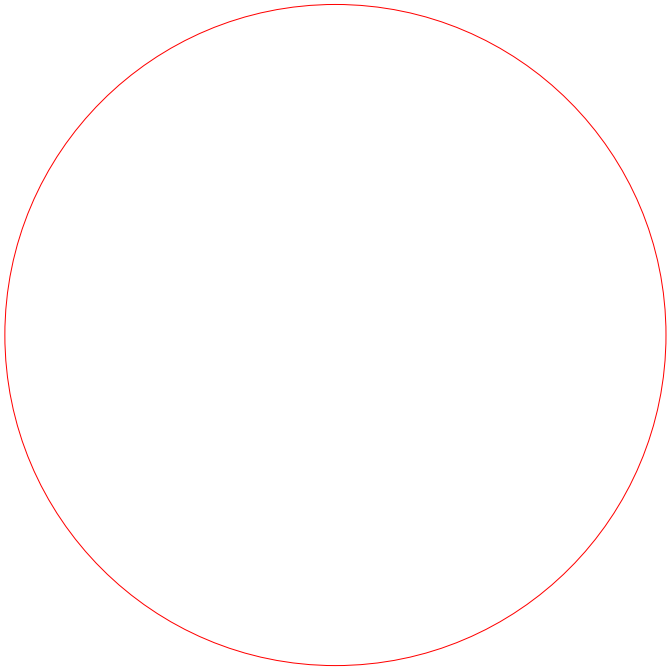
Exercises from EIWL3 Section 8

In[102]:=
```
Graphics[RegularPolygon[3]]
```

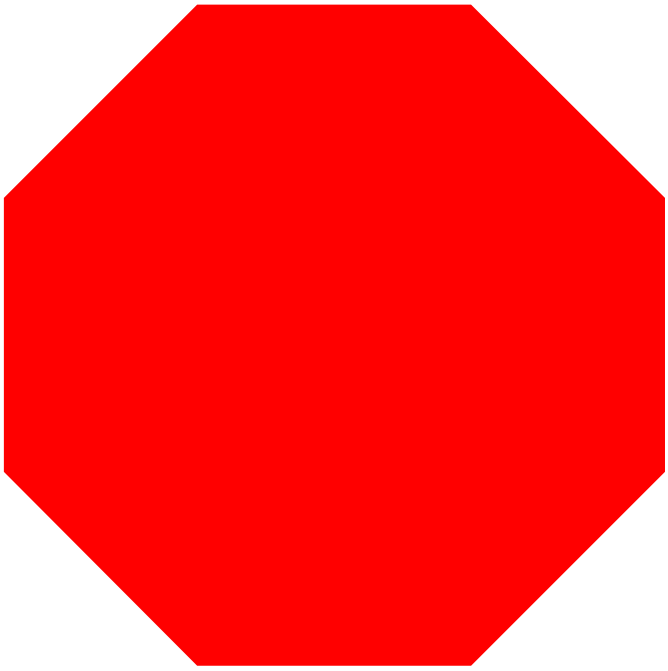
Out[102]=



In[103]:=
```
Graphics[Style[Circle[], Red]]
```
Out[103]=



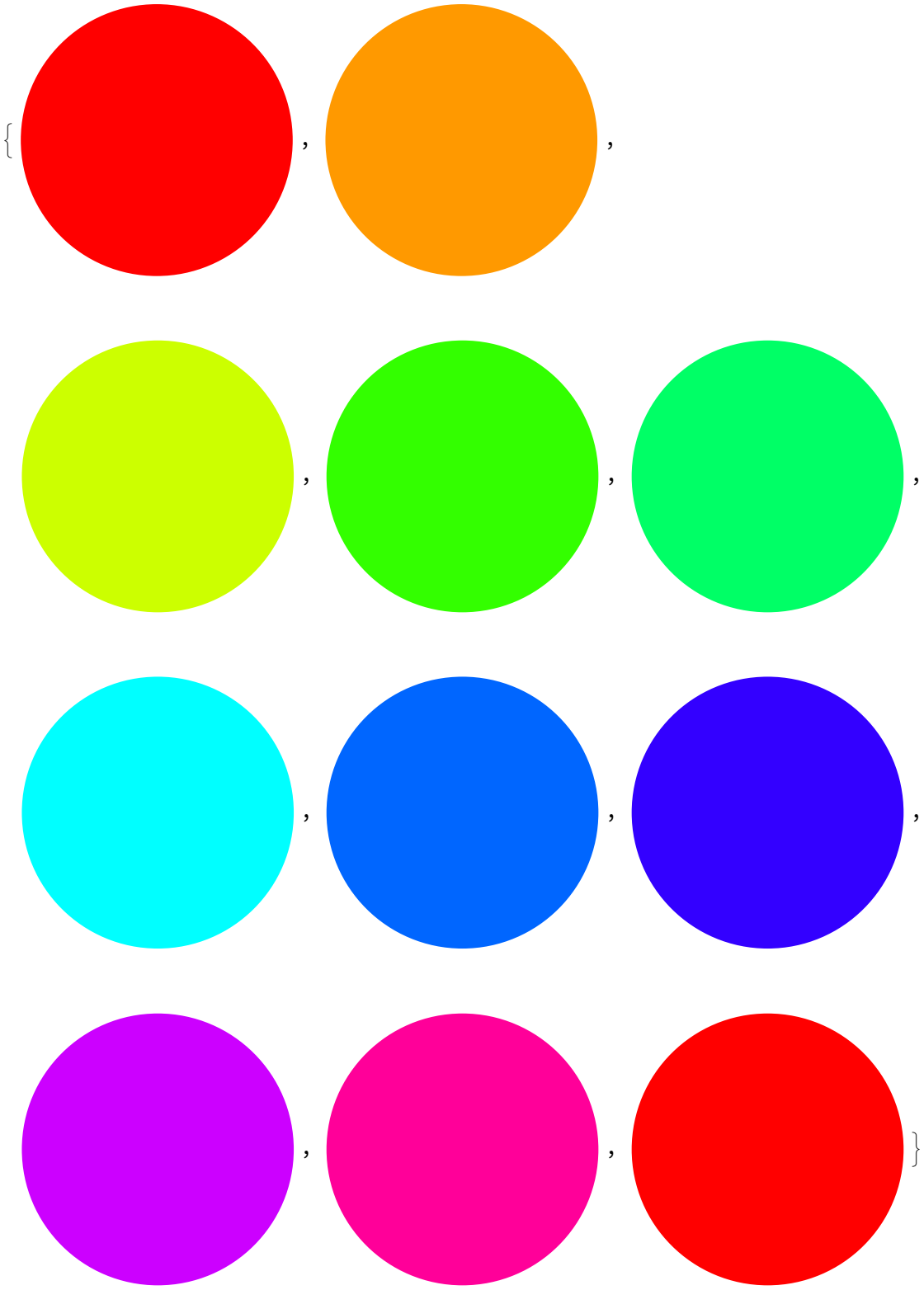
In[104]:=
```
Graphics[Style[RegularPolygon[8], Red]]
```
Out[104]=



In[105]:=

```
Table[Graphics[Style[Disk[], Hue[n]]], {n, 0, 1, 0.1}]
```

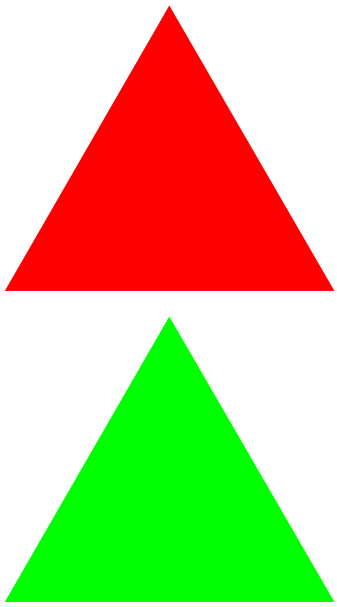
Out[105]=



In[106]:=

```
Column[{Graphics[Style[RegularPolygon[3], Red]],
  Graphics[Style[RegularPolygon[3], Green]]}]
```

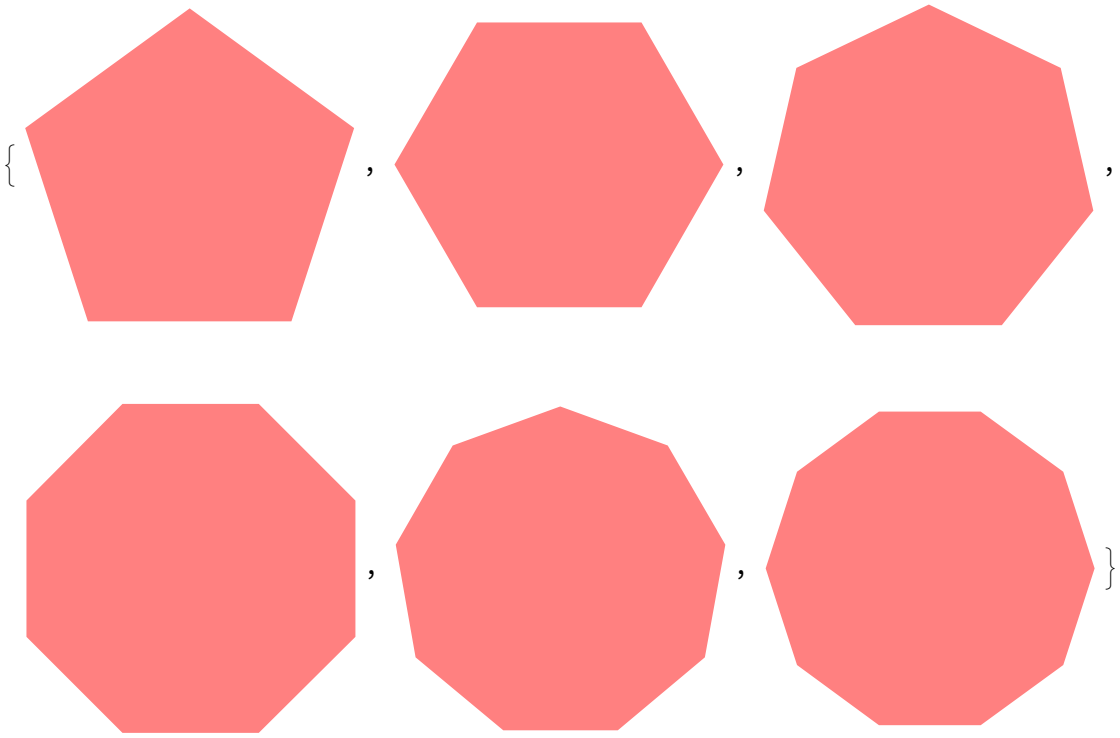
Out[106]=



In[107]:=

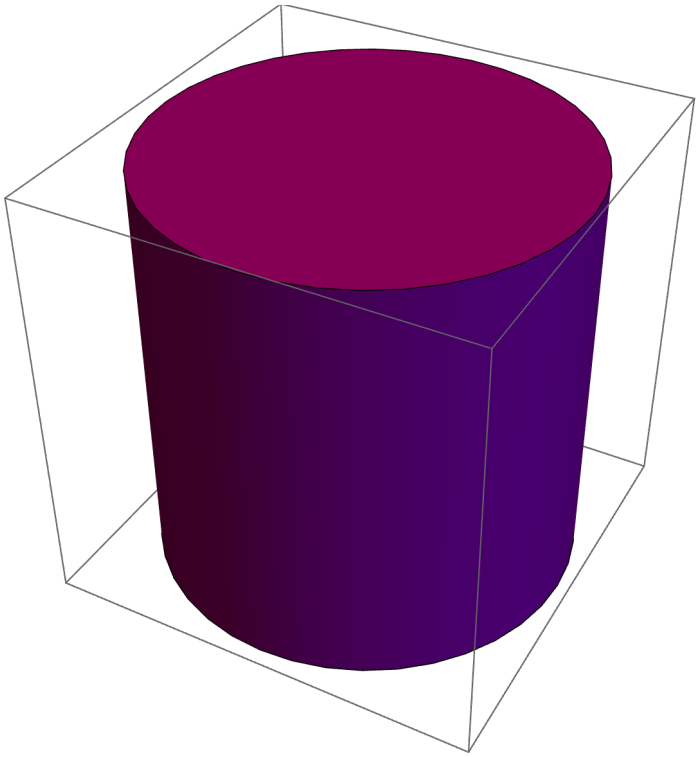
```
Table[Graphics[Style[RegularPolygon[n], Pink]], {n, 5, 10}]
```

Out[107]=



In[108]:=
```
Graphics3D[Style[Cylinder[], Purple]]
```

Out[108]=



In[109]:=
```
Graphics[Table[Style[RegularPolygon[9 - n], RandomColor[]], {n, 0, 6}]]
```

Out[109]=