
Problem Set 2, EIWL Sections 5-8 - Harper Yonago

Section 5

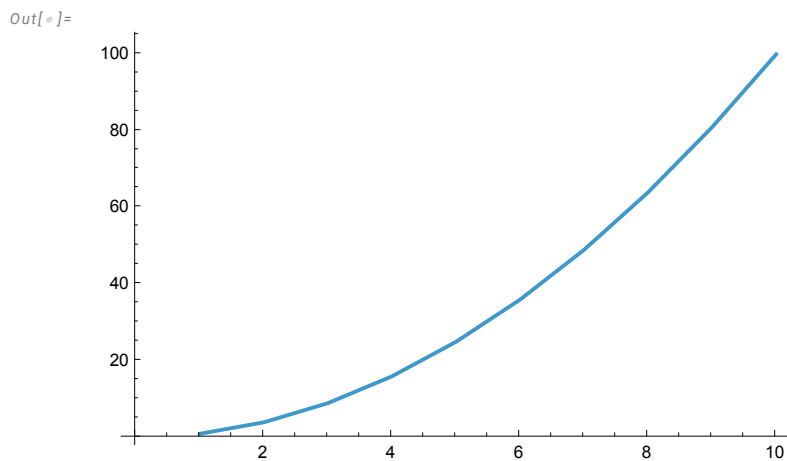
`In[*]:= Reverse[Range[10]^2]`

`Out[*]:=`
`{100, 81, 64, 49, 36, 25, 16, 9, 4, 1}`

`In[*]:= Total[Range[10]^2]`

`Out[*]:=`
`385`

`In[*]:= ListLinePlot[Range[10]^2]`



`In[*]:= Sort[Join[Range[4], Range[4]]]`

`Out[*]:=`
`{1, 1, 2, 2, 3, 3, 4, 4}`

`In[*]:= Range[10, 15 + 5]`

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

`In[*]:= {10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20}`
`(*Not sure if this was what the excersize intended,`
`although it is technically correct*)`

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

`In[*]:= Sort[Join[Range[5]^2, Range[5]^3]]`

`Out[*]:=`
`{1, 1, 4, 8, 9, 16, 25, 27, 64, 125}`

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

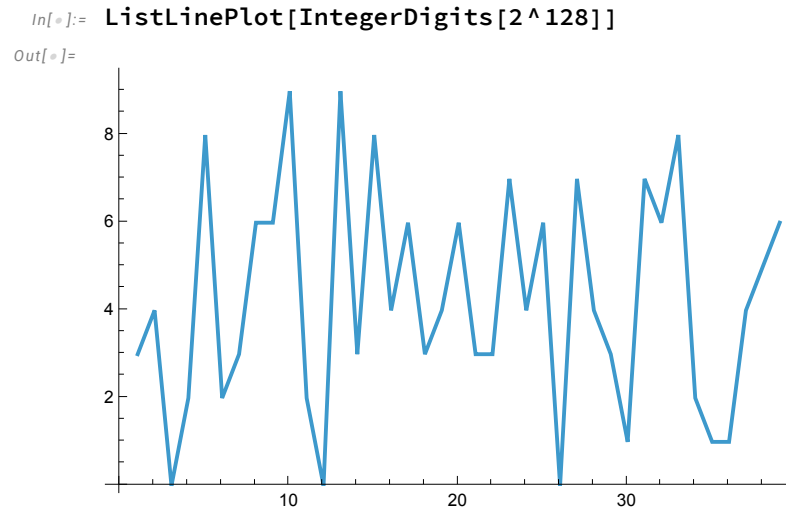
```
In[ ]:= First[IntegerDigits[2^32]]
Out[ ]:=
4
```

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

```
In[ ]:= Max[IntegerDigits[2^20]]
Out[ ]:=
8
```

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

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



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

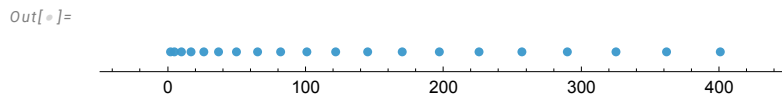
Section 6

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

In[]:= **Table**[n^3 , { n , 10, 20}]

Out[]:=
 {1000, 1331, 1728, 2197, 2744, 3375, 4096, 4913, 5832, 6859, 8000}

In[]:= **NumberLinePlot**[$\text{Range}[20]^2$]



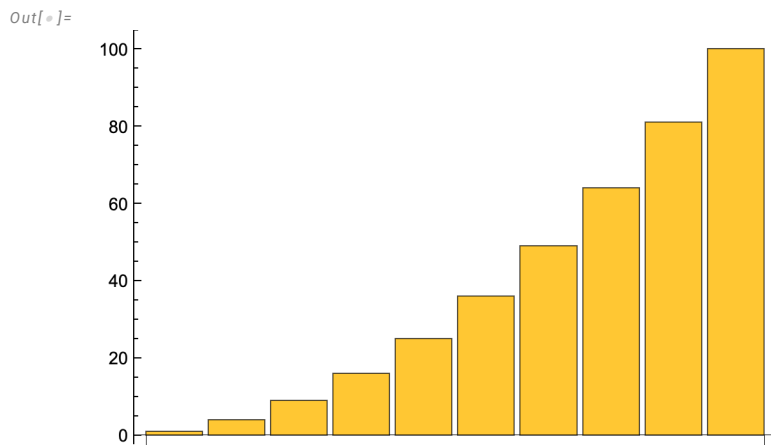
In[]:= **Range**[2, 20, 2]

Out[]:=
 {2, 4, 6, 8, 10, 12, 14, 16, 18, 20}

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

Out[]:=
 {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

In[]:= **BarChart**[$\text{Range}[10]^2$]



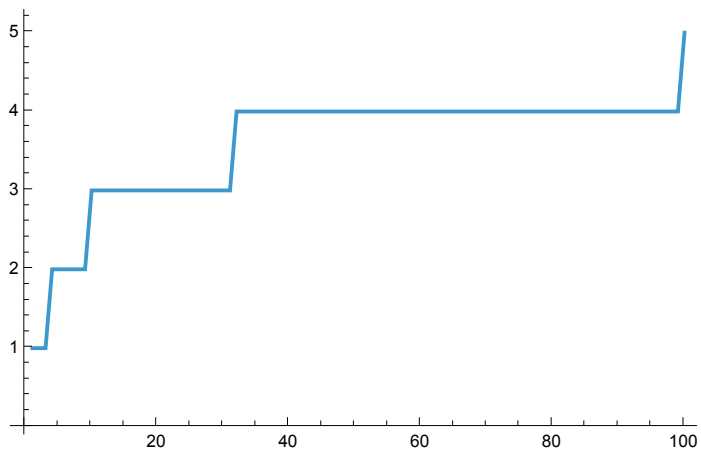
In[]:= **IntegerDigits**[**Table**[n^2 , {2, 10}]]

Table: Raw object 2 cannot be used as an iterator. [i](#)

Out[]:=
 IntegerDigits[**Table**[n^2 , {2, 10}]]

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

```
Out[ ]:=
```



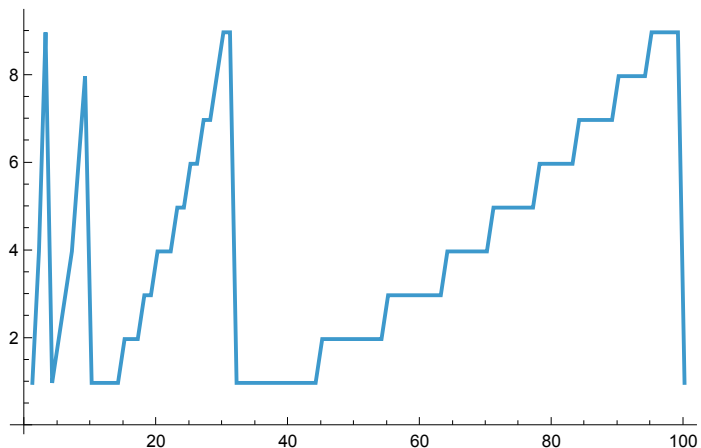
```
In[ ]:= Table[First[IntegerDigits[n^2]], {n, 20}]
```

```
Out[ ]:=
```

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

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

```
Out[ ]:=
```



Section 7

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

```
Out[ ]:=
```

```
{Red, Yellow, Green}
```

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

```
Out[ ]:=
```

```
Red
Yellow
Green
```



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

```
Out[ ]:=
```

{, 1, 4, 9, 16, 25, 36, 49, 64, 81, 100}

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

```
Out[ ]:=
```

{Red, Yellow, Green}

```
In[ ]:= Table[Part[{Red, Yellow, Green}, RandomInteger[{1, 3}]], 100]
```

```
Out[ ]:=
```

{Red, Green, Green, Green, Yellow, Red, Yellow, Green, Yellow, Red, Red, Yellow, Green, Yellow, Yellow, Green, Red, Green, Green, Red, Green, Red, Green, Green, Yellow, Green, Green, Green, Yellow, Red, Red, Red, Green, Green, Green, Yellow, Yellow, Green, Yellow, Green, Yellow, Green, Green, Red, Green, Yellow, Yellow, Yellow, Red, Yellow, Yellow, Red, Green, Green, Yellow, Yellow, Red, Red, Green, Red, Green, Yellow, Green, Red, Red, Red, Red, Green, Green, Red, Yellow, Red, Green, Red}

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

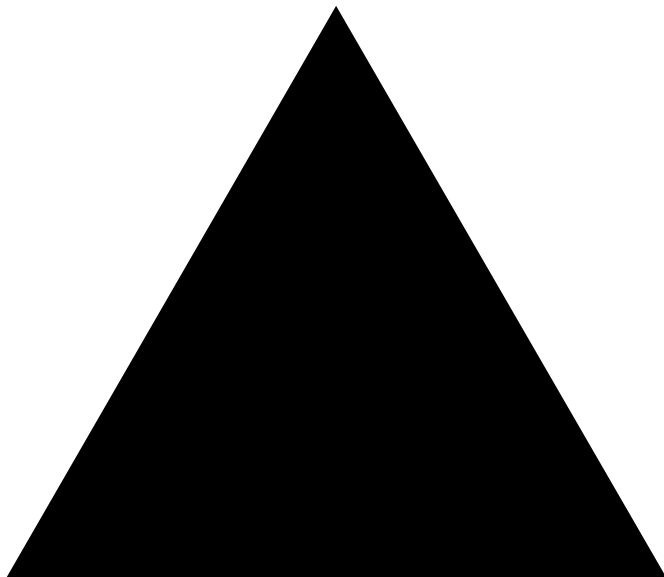
```
Out[ ]:=
```

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

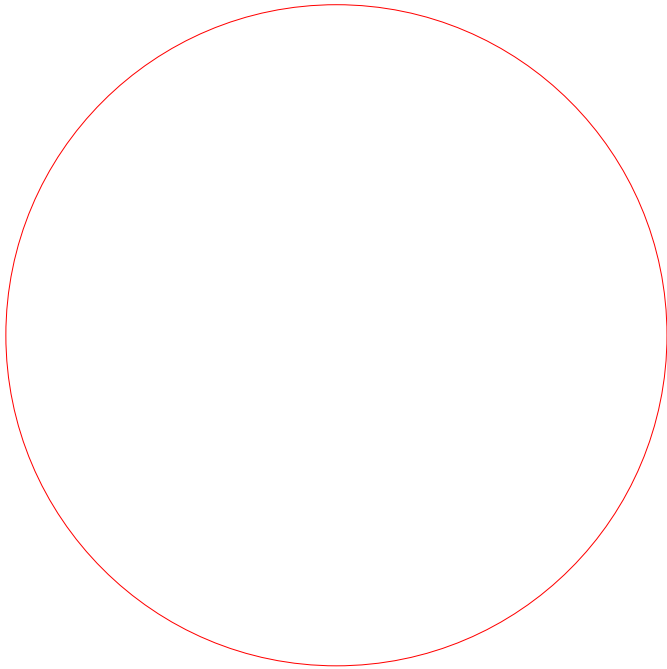
Section 8

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

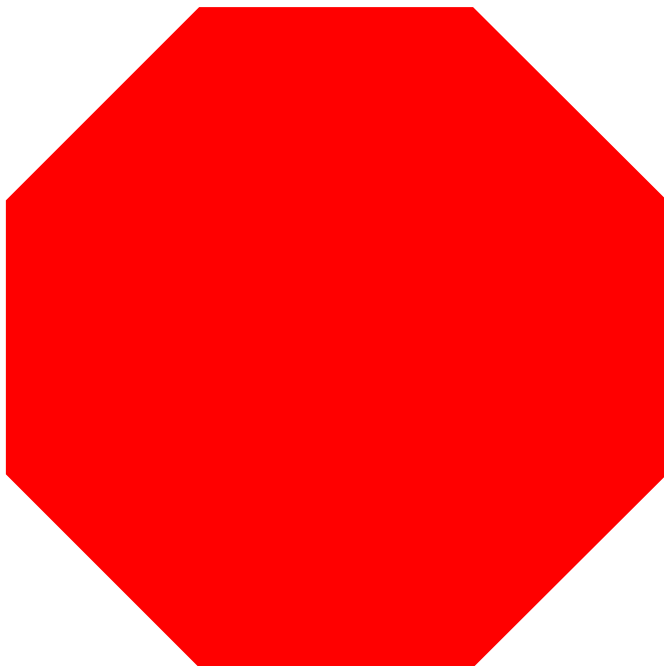
```
Out[ ]:=
```



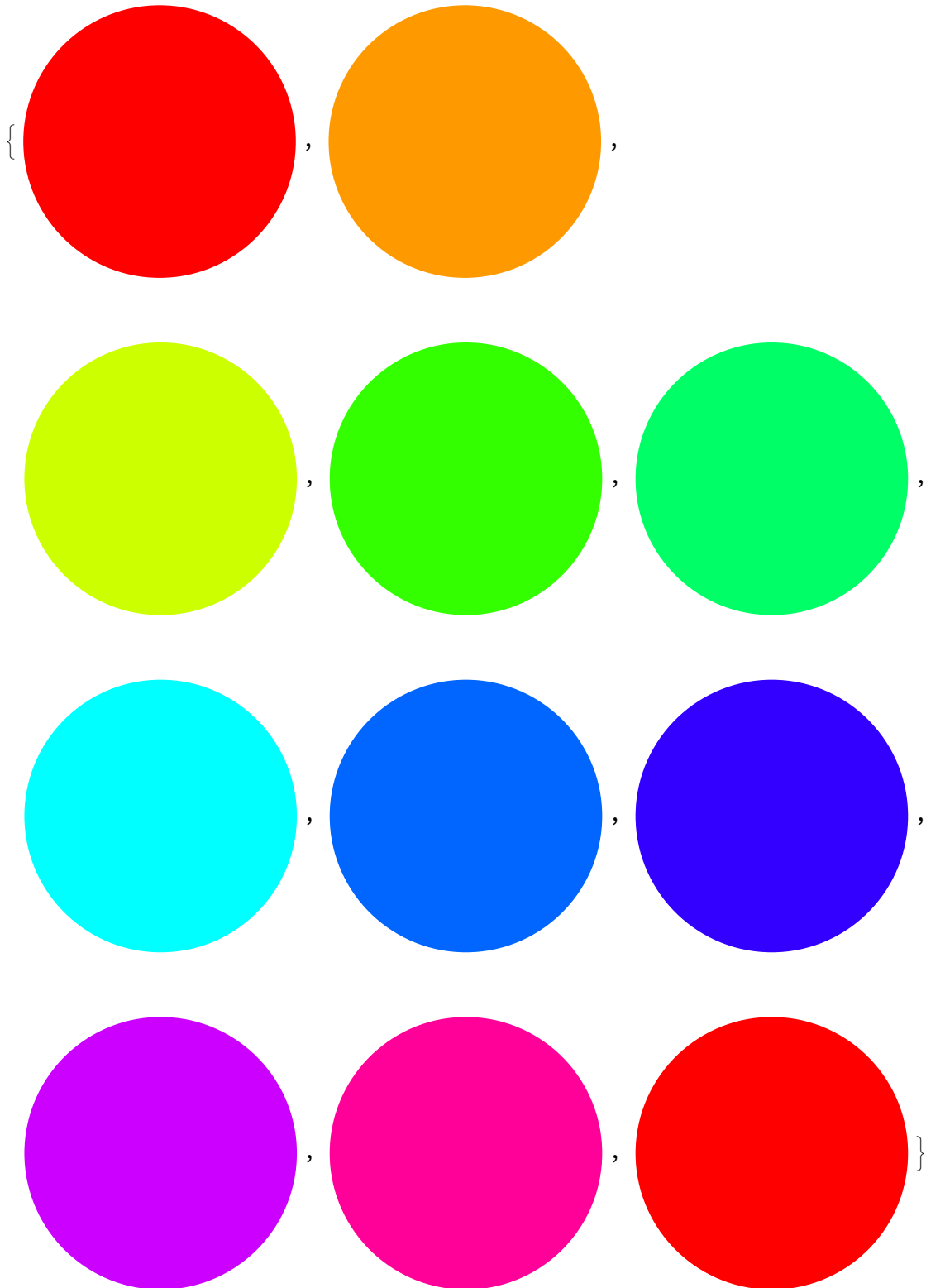
```
In[ ]:= Graphics[Style[Circle[], Red]]  
Out[ ]:=
```



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

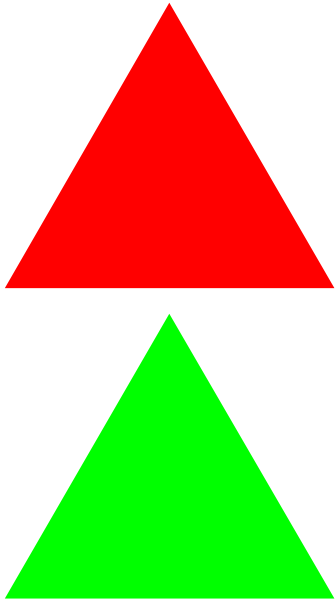


```
In[ ]:= Table[Graphics[Style[Disk[], Hue[x]]], {x, 0, 1, 0.1}]  
Out[ ]:=
```



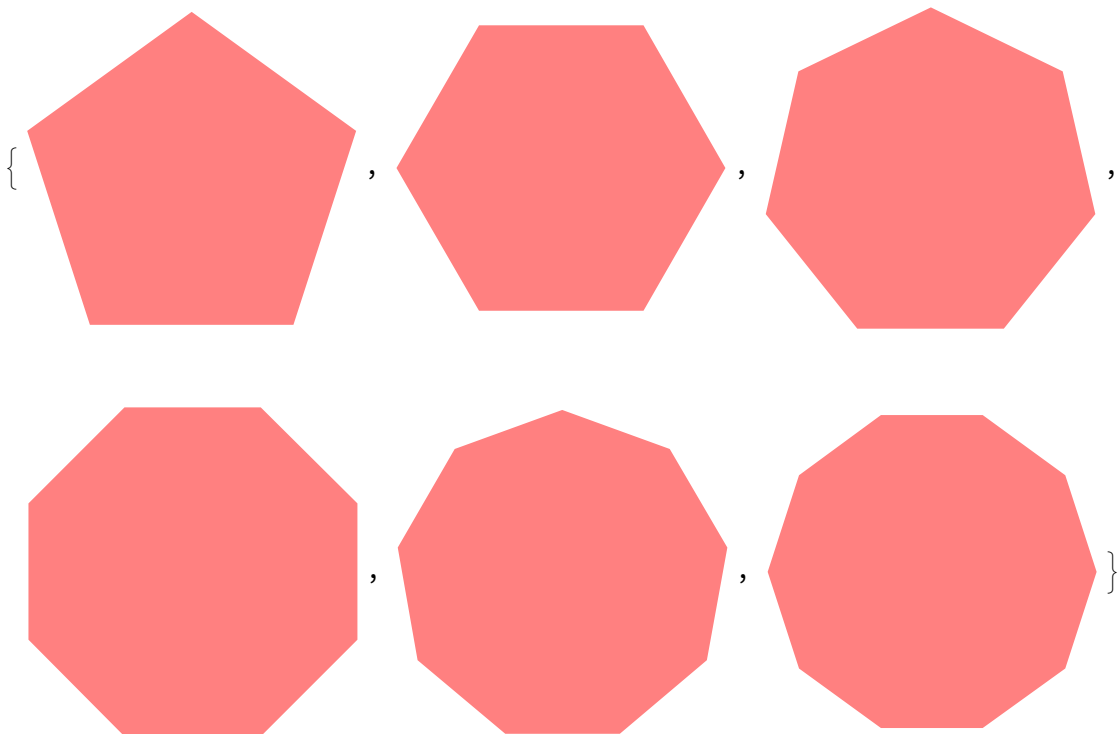

```
In[ ]:= Column[{Graphics[Style[RegularPolygon[3], Red]],  
Graphics[Style[RegularPolygon[3], Green]]}]
```

Out[]:=

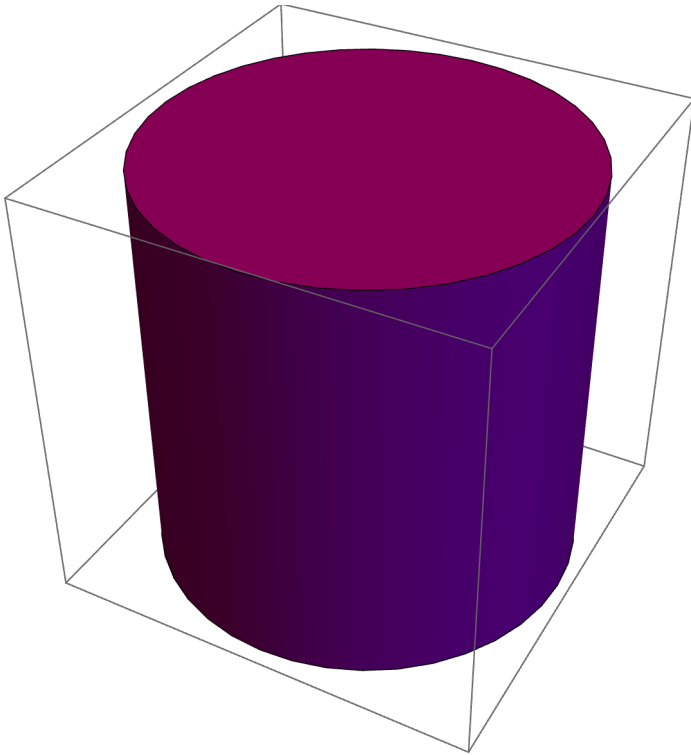


```
In[ ]:= Table[Graphics[Style[RegularPolygon[x], Pink]], {x, 5, 10}]
```

Out[]:=



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



```
In[ ]:= Graphics[Reverse[Table[Style[RegularPolygon[x], RandomColor[]], {x, 3, 8}]]]  
Out[ ]=
```

