# Tahm — PS 17 — 2025-04-11

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# Chapter 39

In[42]:=
```
Round[{x, x + 1, x + 2, x^2}] /. x → RandomReal[100]
```

Out[42]=
```
{74, 75, 76, 5461}
```

In[43]:=
```
Round[{x, x + 1, x + 2, x^2}] /. x :→ RandomReal[100]
```

Out[43]=
```
{95, 49, 67, 299}
```

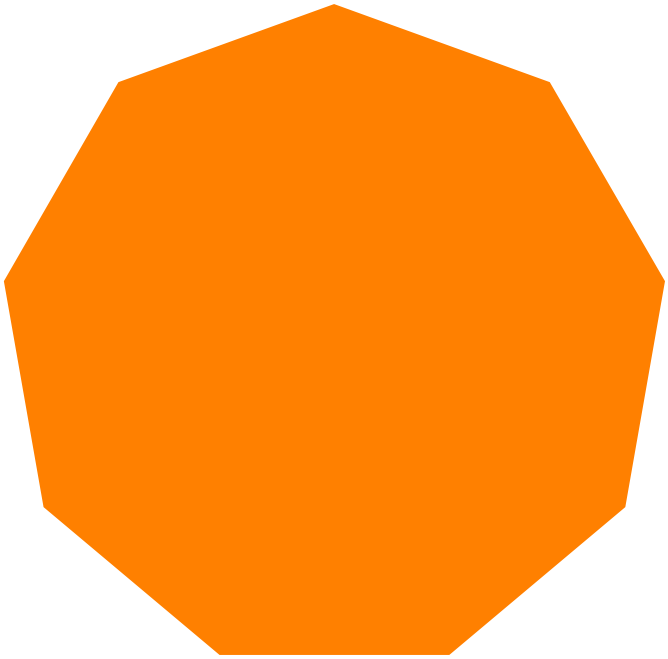
# Chapter 40

In[44]:=
```
f[x_] := x^2
f[2]
```

Out[45]=
```
4
```

In[46]:=
```
poly[X_] := Graphics[Style[RegularPolygon[X], Orange]]
poly[9]
```

Out[47]=



In[48]:=
```
f[X_, y_] := Reverse[{X, y}]
f[cat, bat]
```

Out[49]=
```
{bat, cat}
```

In[50]:=
```
f[X_, y_] := X * y / x + y
f[2, 5]
```

Typo! Capital X and small x are different!

Out[51]=
$$5 + \frac{10}{x}$$

In[52]:=
```
f[X_, y_] := {X + y, X - y, X / y}
f[2, 5]
```

In this one, you were consistent, so it worked.

Out[53]=
$$\left\{7, -3, \frac{2}{5}\right\}$$

In[54]:=
```
evenodd[x_] := If[x == 0, Red, If[EvenQ[x], Black, White]]
evenodd[0]
evenodd[5]
evenodd[6]
```

Wolfram meant for you to use the new method of patterns in 40.6, 40.7, and 40.8. The If[] statements work, but they don't apply what he was emphasizing.

Out[55]=


Out[56]=


Out[57]=


In[58]:=
```
f[x_, y_, z_] := If[x == 1, y + z, If[x == 2, y * z, x ^ y]]
f[1, 5, 6]
f[2, 5, 6]
f[3, 5, 6]
```

Out[59]=
```
11
```

Out[60]=
```
30
```

Out[61]=
```
243
```

In[62]:=
```
f[x_] := If[x == 1 || x == 0, 1, f[x - 1] + f[x - 2]]
f[10]
```

Out[63]=
```
89
```

In[64]:=
```
animal[x_] := Interpreter["Animal"][x]["Image"]
animal["cat"]
```

Out[65]=

In[66]:=
```
nearwords[x_, y_] := Nearest[WordList[], x, y]
```

In[67]:=
```
nearwords["cat", 3]
```

Out[67]=

{cat, at, bat}