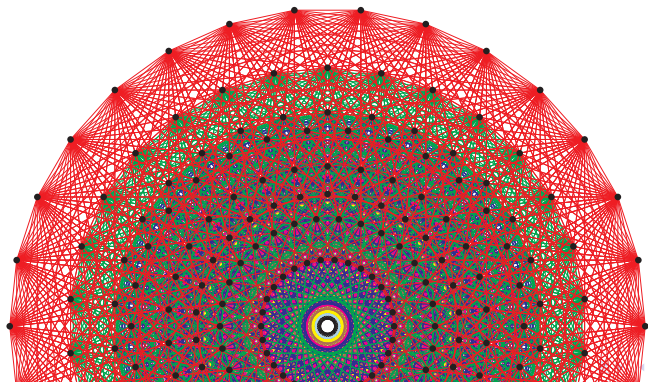


p -Adic Numbers: A new way to count

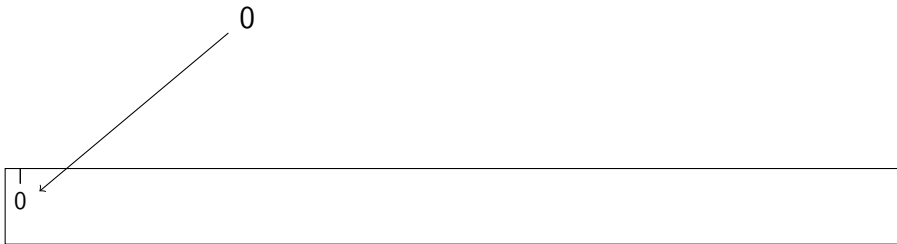
Adam Brown





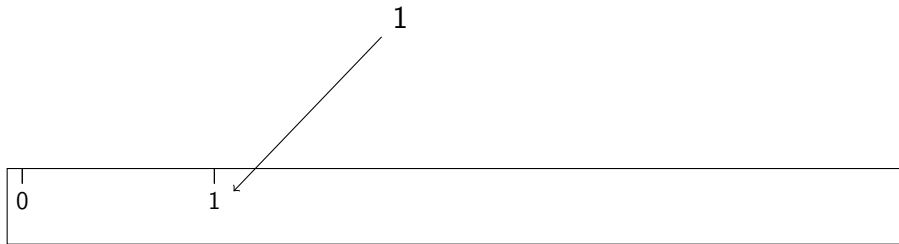
0

1



1

0



2

|
0

|
1

$$2 = 1 + 1$$



$$2 = 1 + 1$$

0

1

2

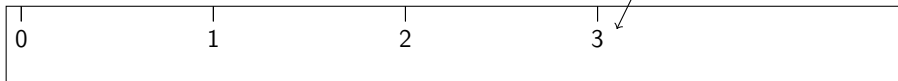
3

0

1

2

$$3 = 1 + 1 + 1$$



4

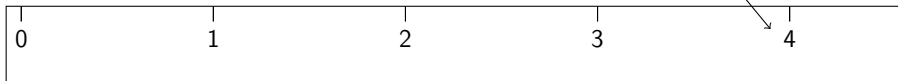
0

1

2

3

$$4 = 1 + 1 + 1 + 1$$



$$\frac{1}{2}$$

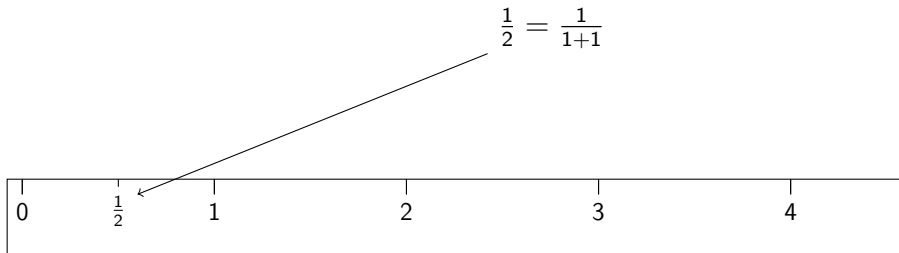
0

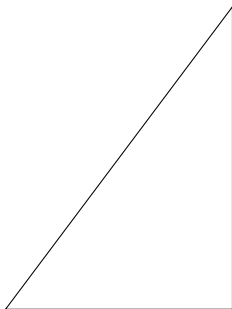
1

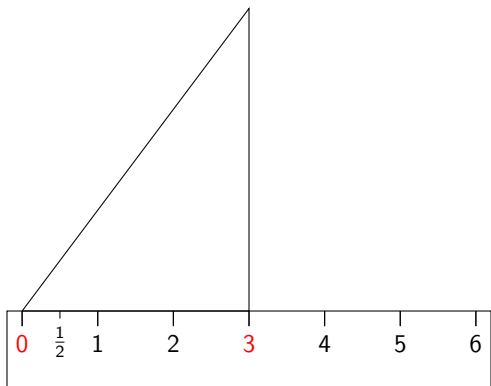
2

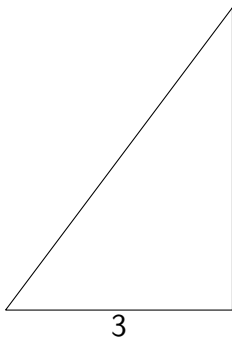
3

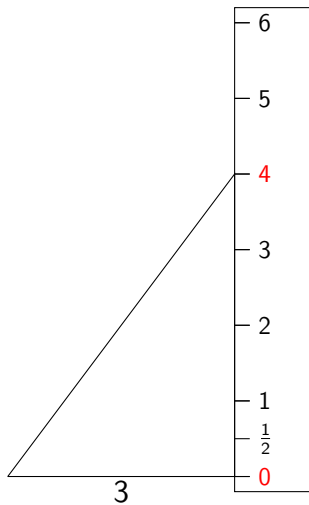
4

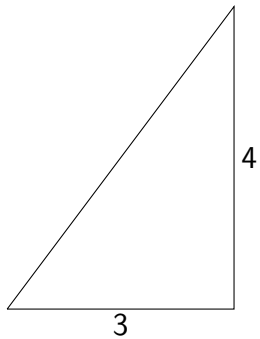


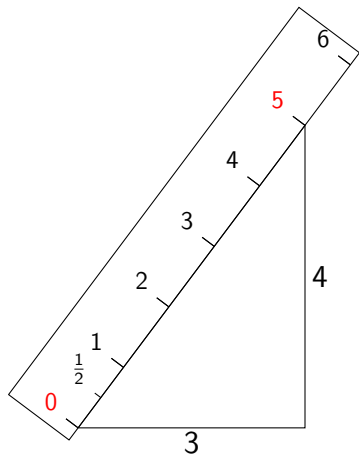


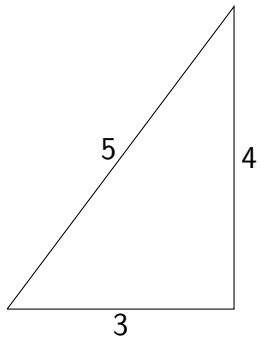














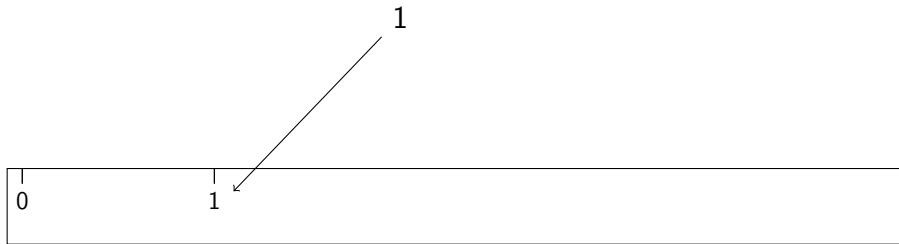
0

1



1

1
0



2

0

1

$$2 = 1 \times 2$$

|
0

|
1

$$2 = 1 \times 2$$

0

2

1



3

0

2

1

$$3 = 1 \times 3$$



4



$$4 = 1 \times 2 \times 2$$

0

2

1
3

$$4 = 1 \times 2 \times 2$$



5



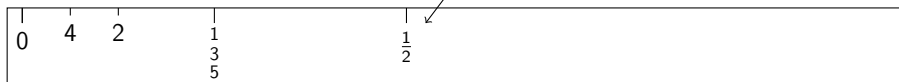
$$5 = 1 \times 5$$



$$\frac{1}{2}$$



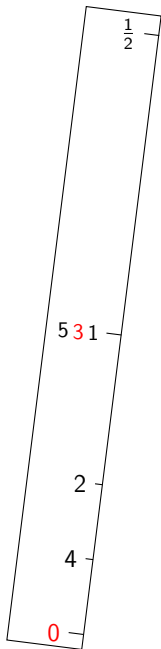
$$\frac{1}{2} = \frac{1}{1 \times 2}$$

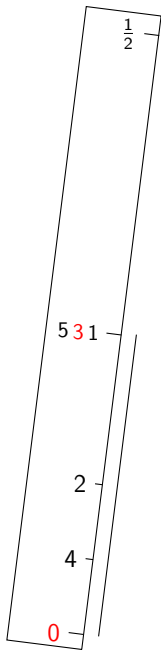


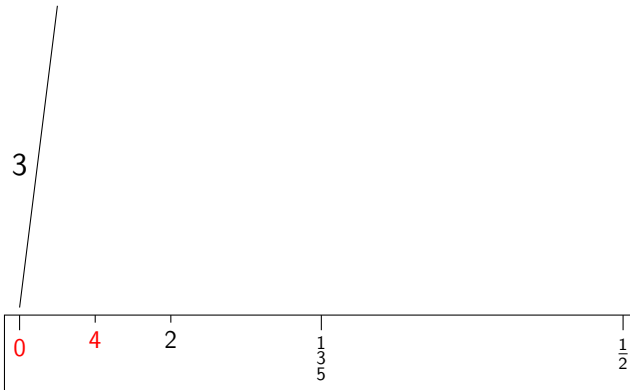
Let's play around with this new ruler and see what kind of pictures we can draw.

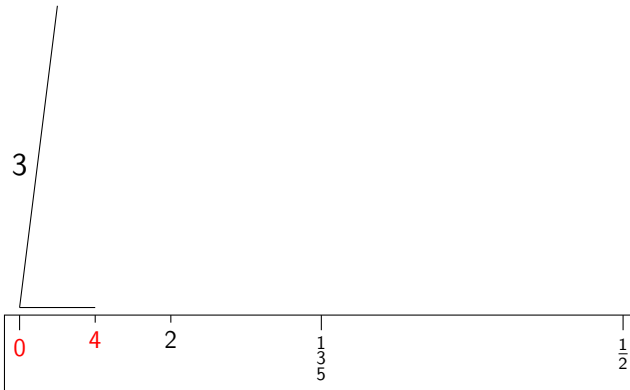
Let's play around with this new ruler and see what kind of pictures we can draw.

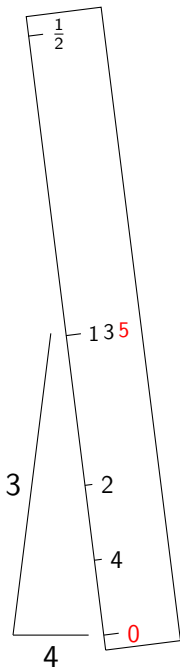
Can we make a 3, 4, 5-triangle using our new ruler?

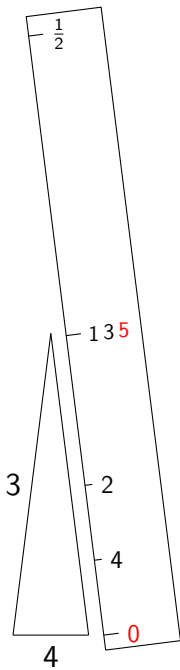


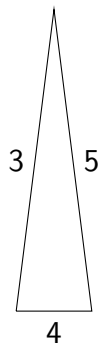


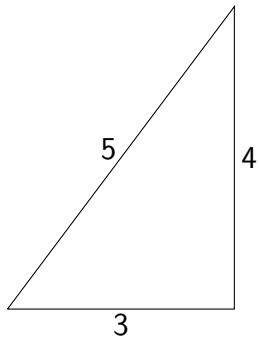
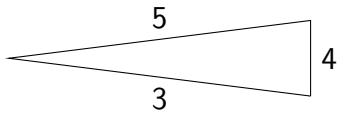


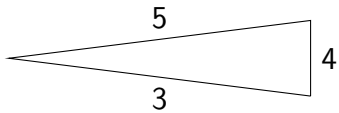












?!?!?

