

Ultimate reasoning resources

**To support teachers, parents and
schools to develop communication,
talking and justification**



Year 3 and 4

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@mrbeeteach

Equivalent to?



100

100

100

10

1

1

100

100

10

10

10

1

100

10

10

10

10

10

1

1

1

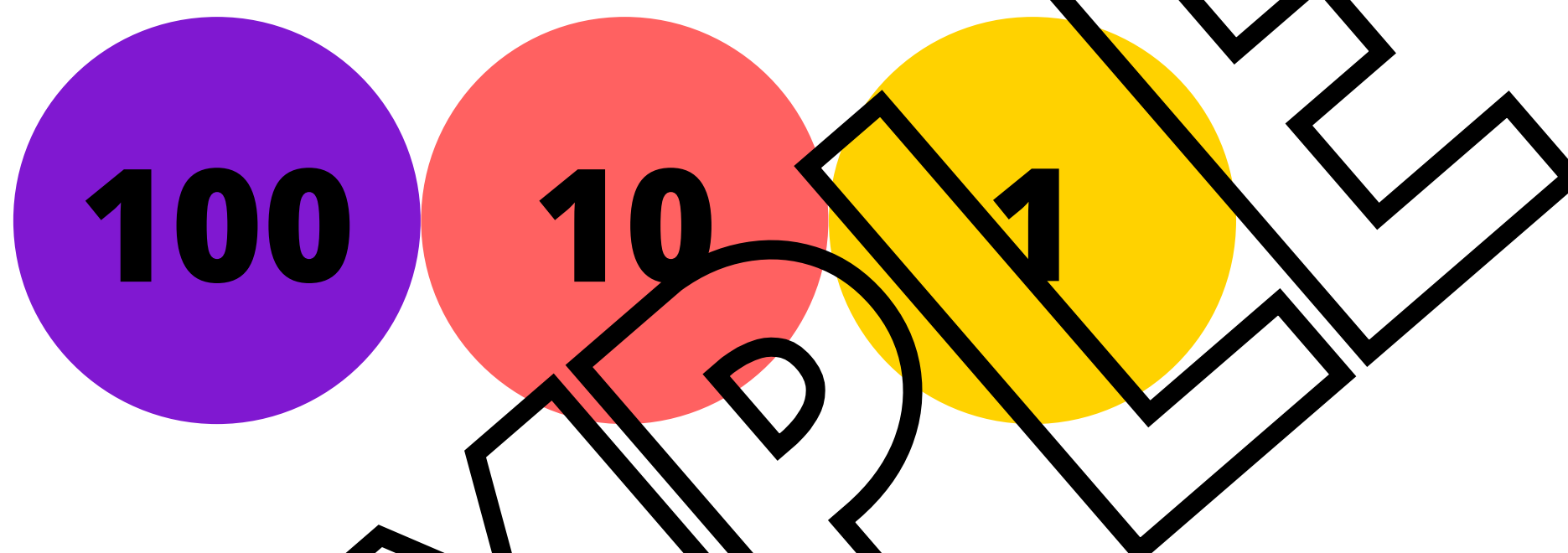
1

=

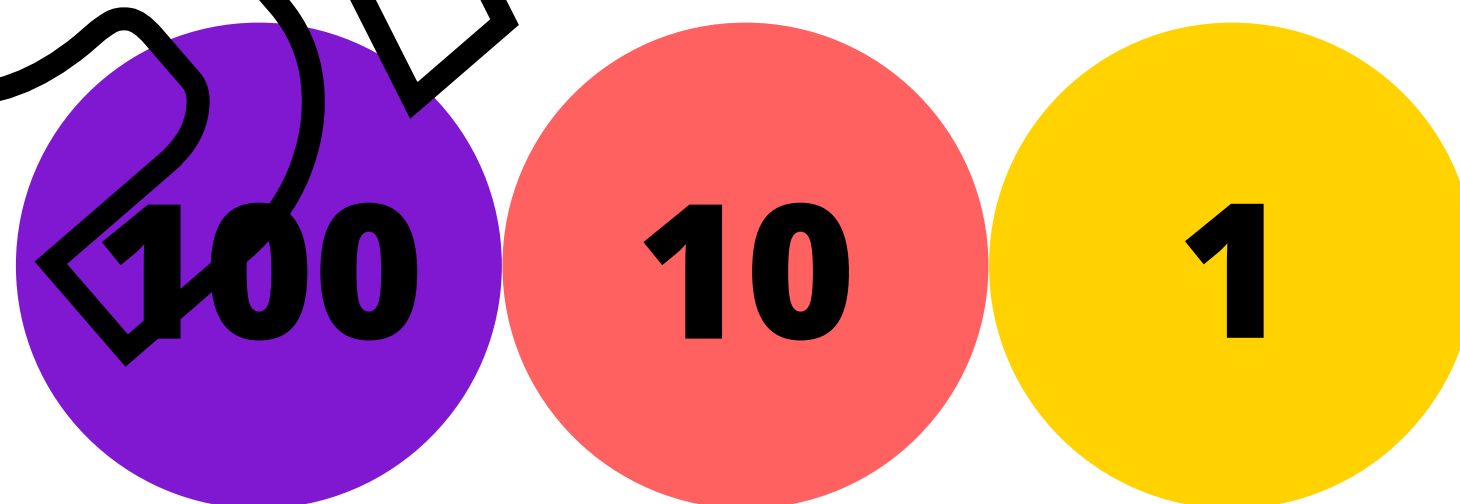


How many ways?

**Use a pile of 100s, 10s and 1s
to make 130.**

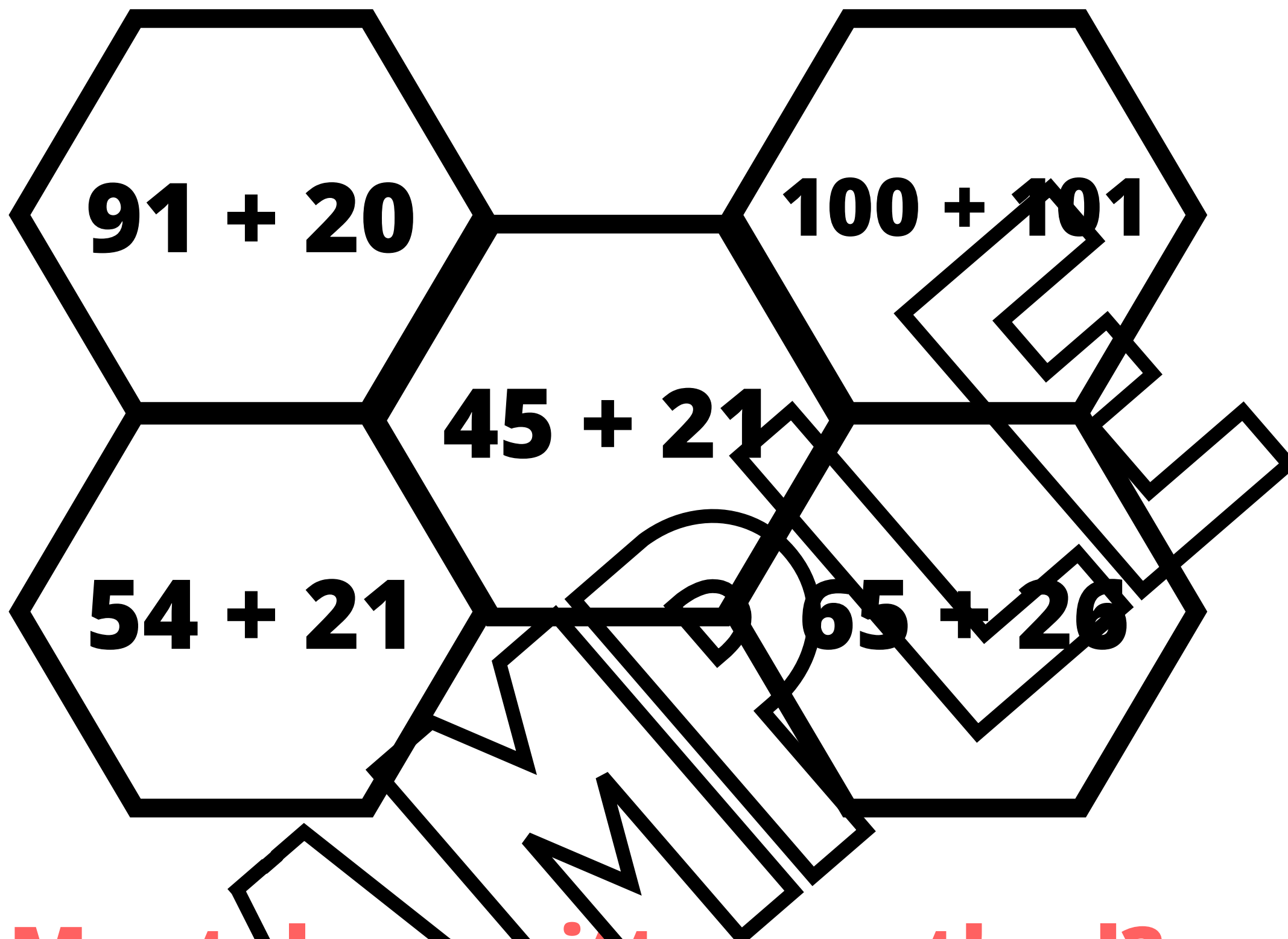


**Use a pile of 100s, 10s and 1s
to make 230.**

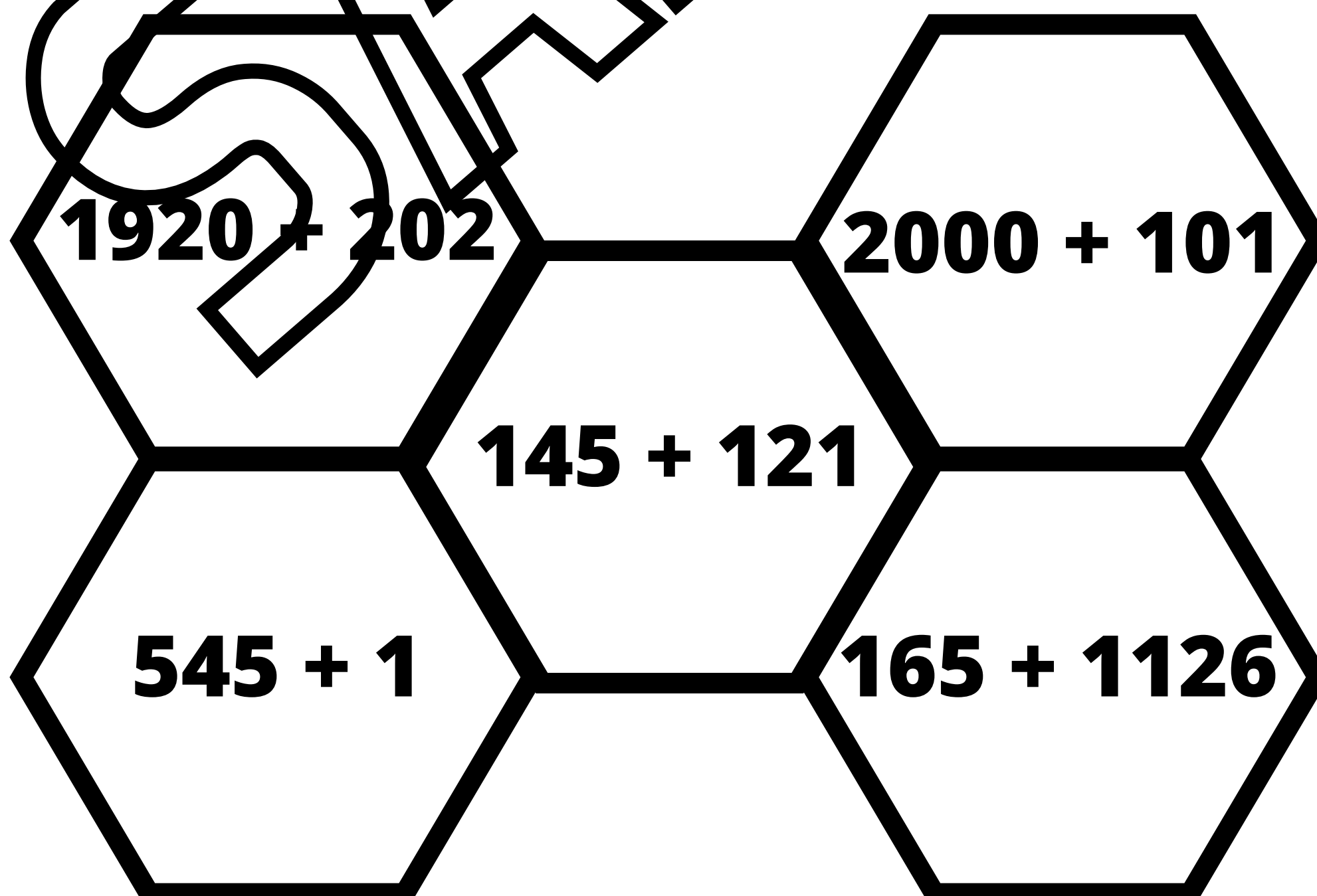




Mental or written method?



Mental or written method?





Missing digits?

$$\begin{array}{r} 12\Box \\ \hline \end{array}$$

$$\begin{array}{r} 1\Box3 + \\ \hline \end{array}$$

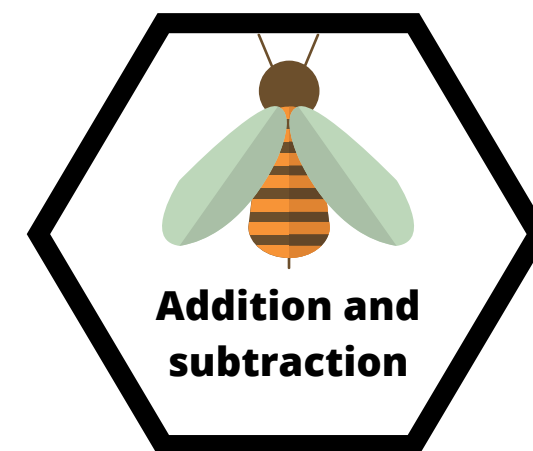
$$\begin{array}{r} \Box46 \\ \hline \end{array}$$

Missing digits?

$$\begin{array}{r} 24\Box \\ \hline \end{array}$$

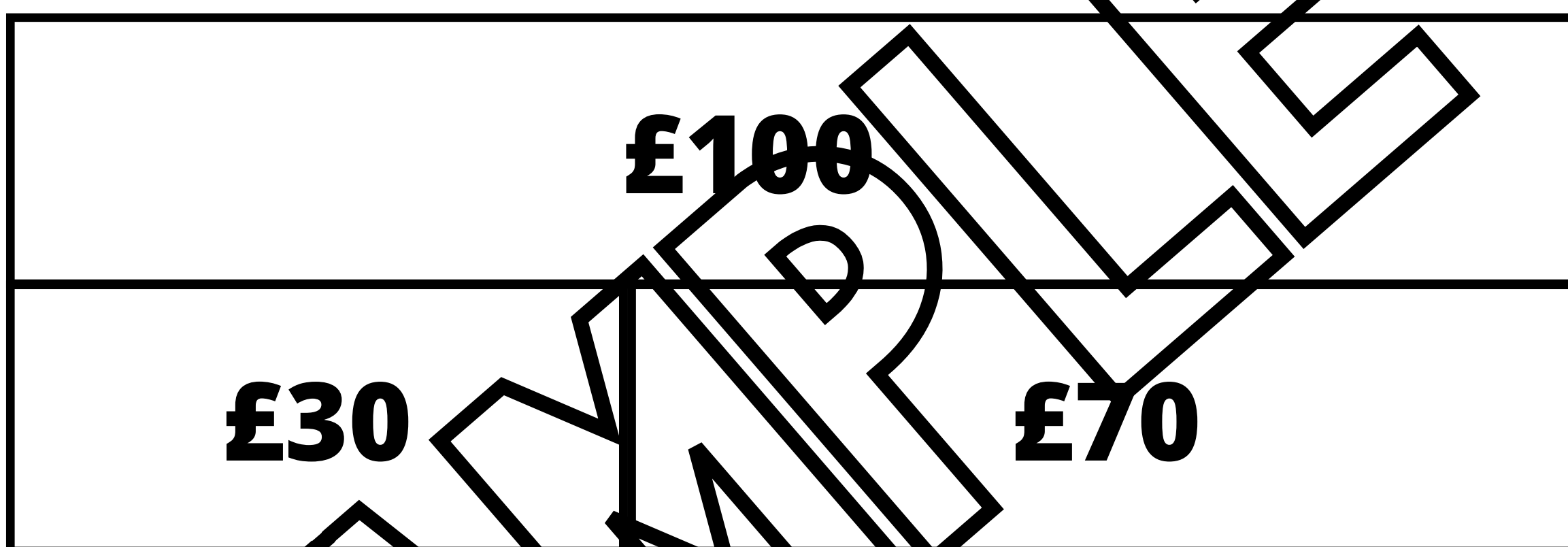
$$\begin{array}{r} 2\Box6 + \\ \hline \end{array}$$

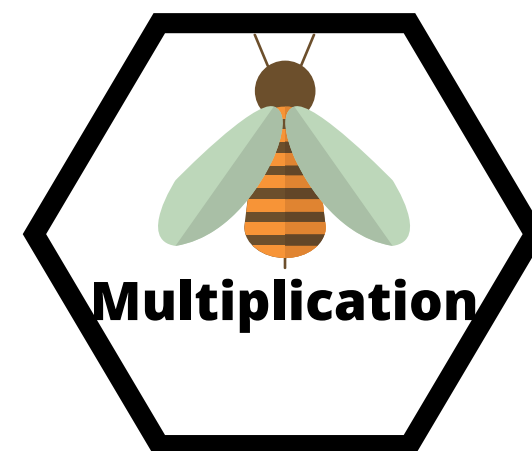
$$\begin{array}{r} \Box92 \\ \hline \end{array}$$



Which calculations?

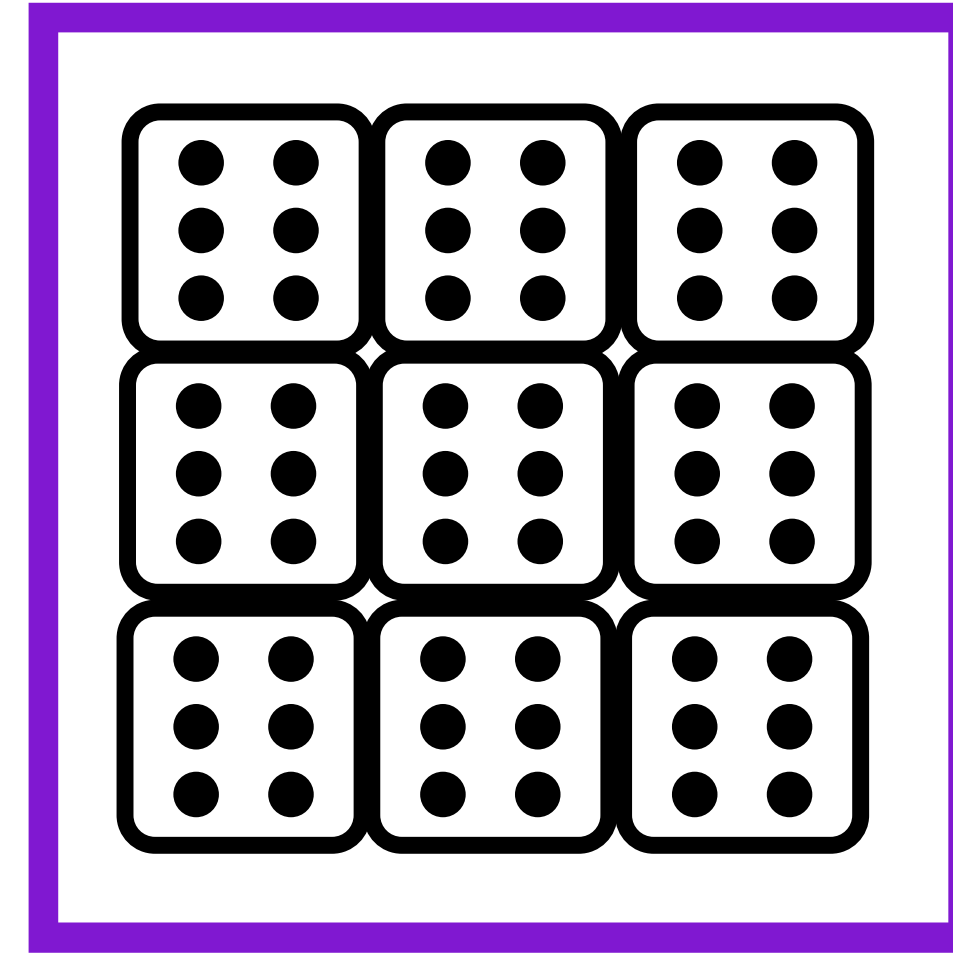
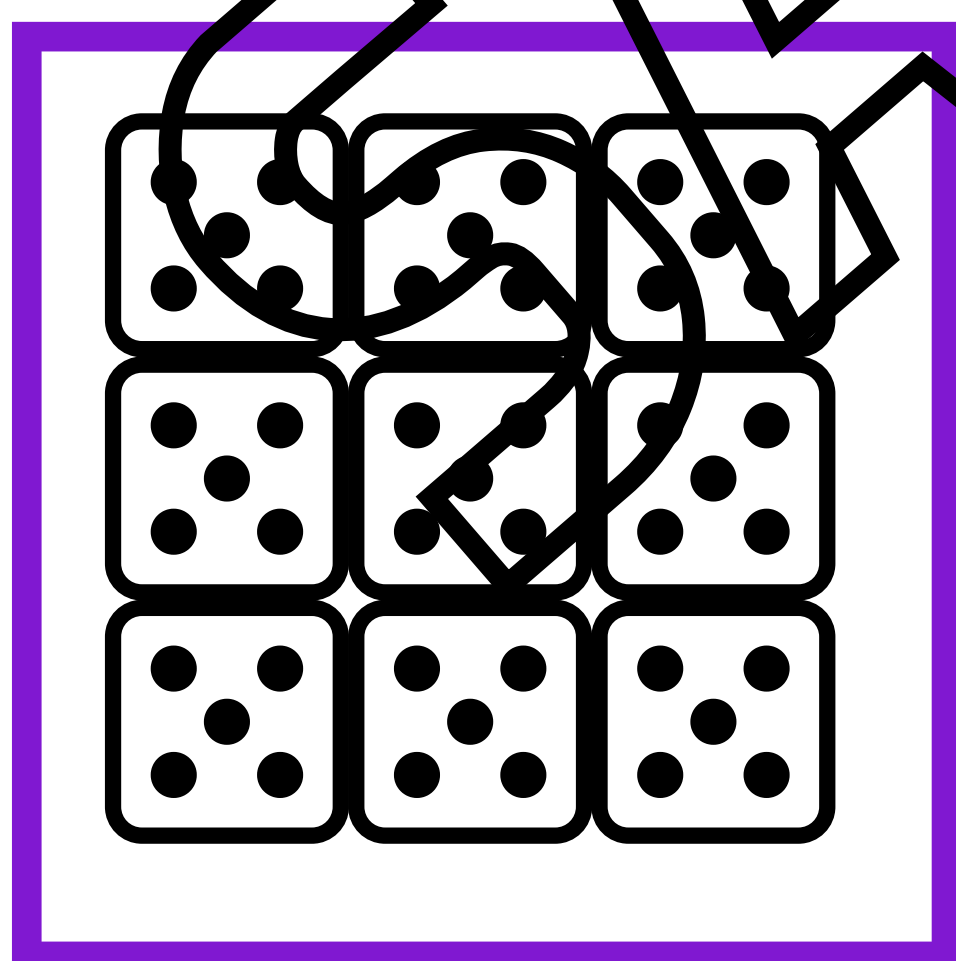
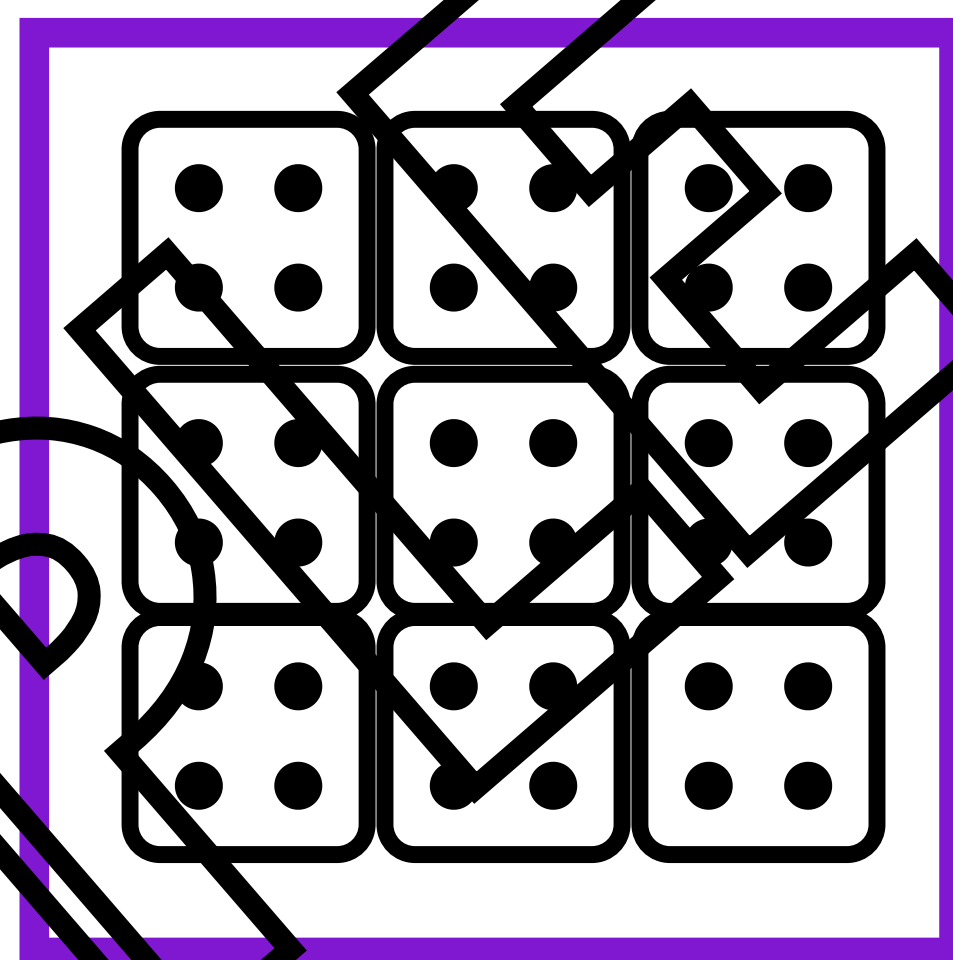
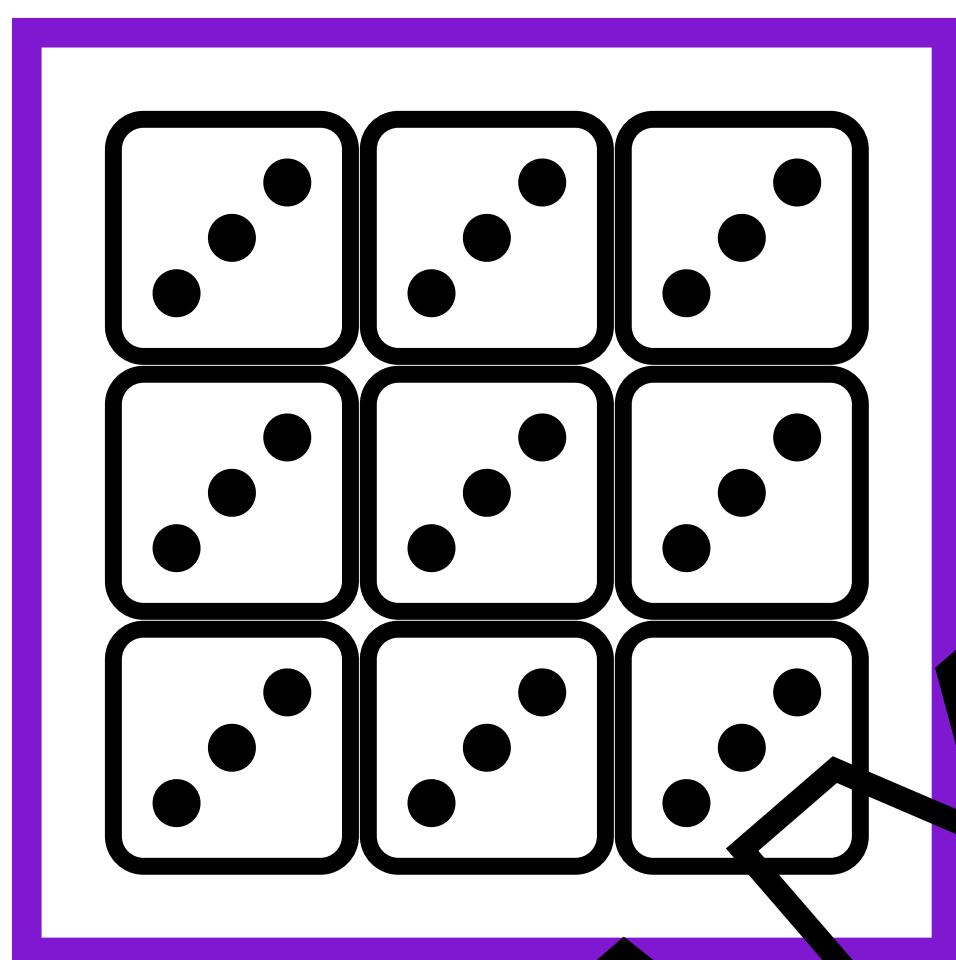
Which calculations can you see on the bar model?

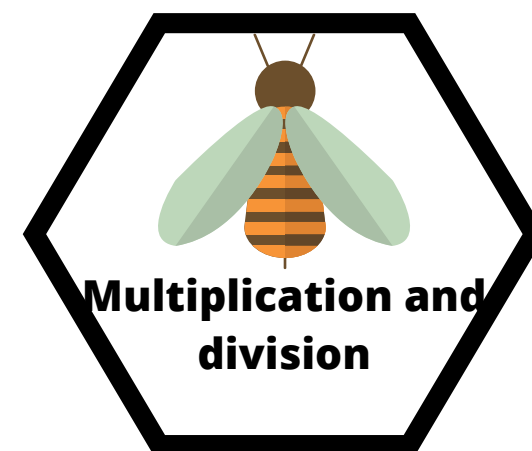




**Which number sentence
could you write?**

How many dots?



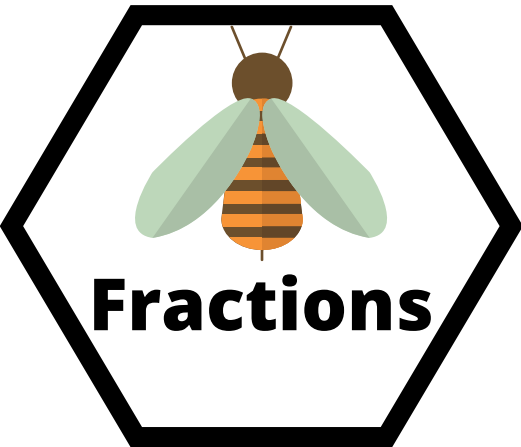


How many ways?

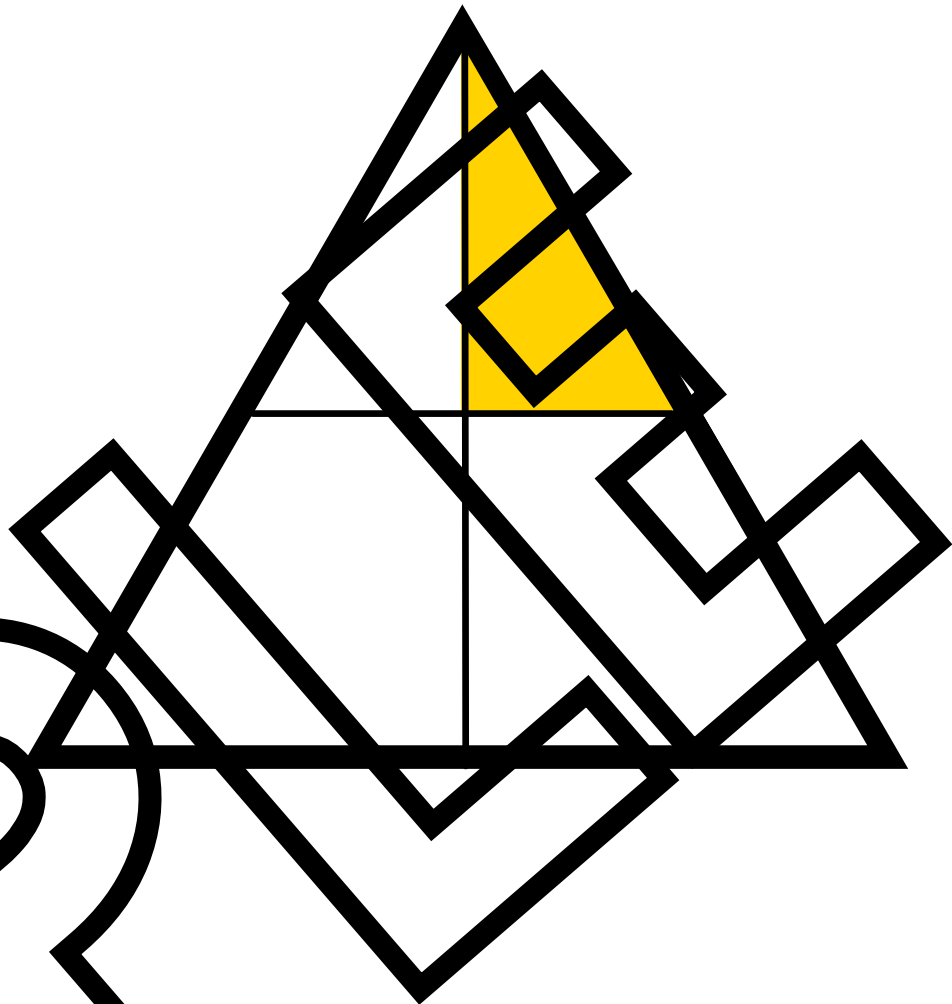
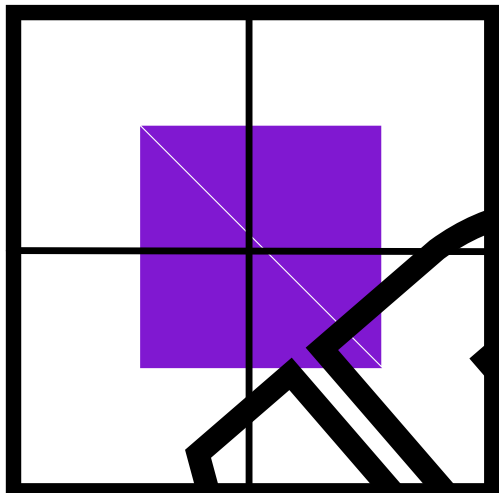
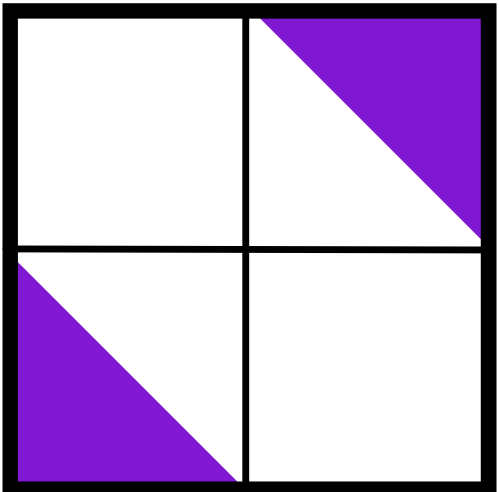
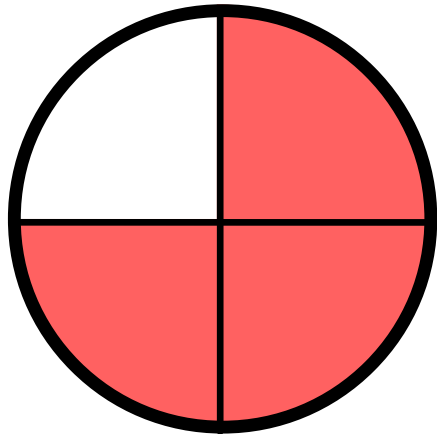
$$48 \div \square = > 10$$

How many ways?

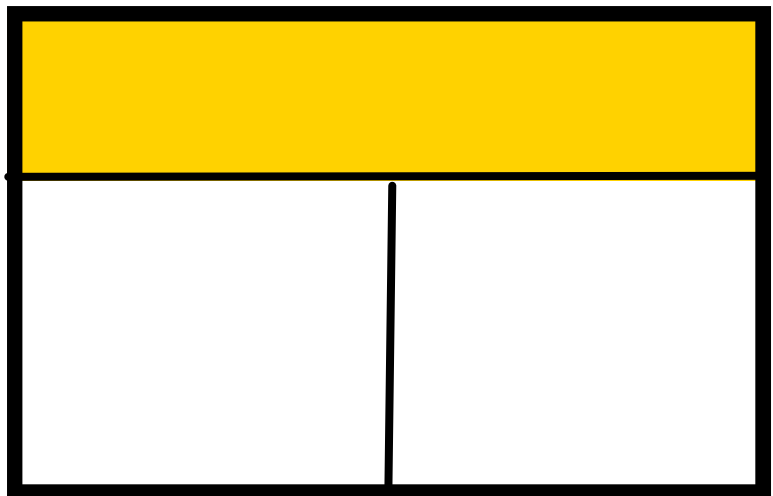
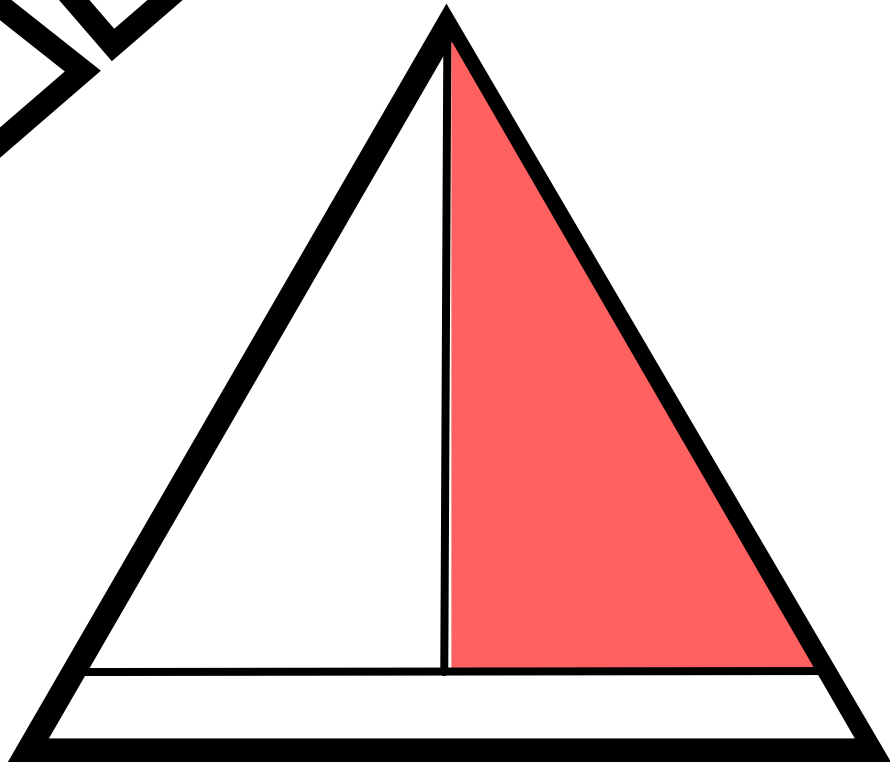
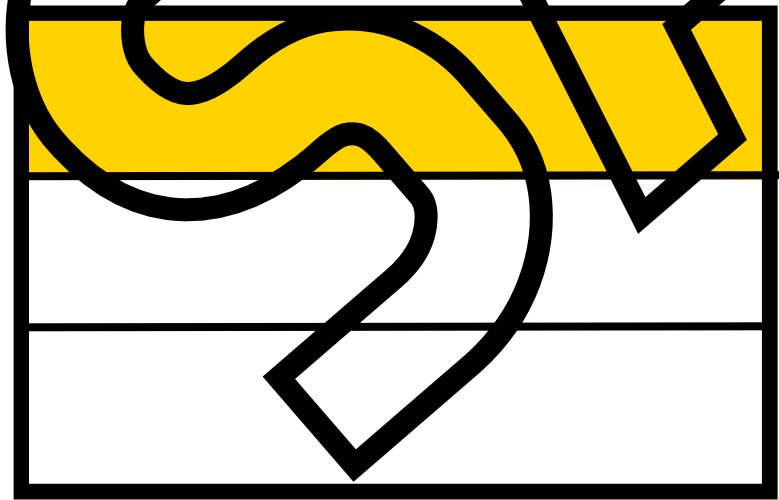
$$48 \div \square = < 10$$

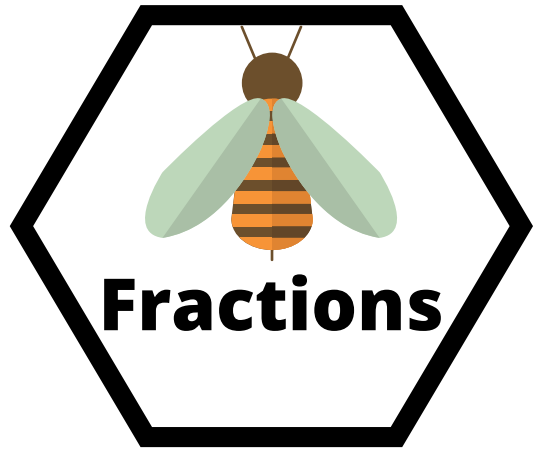


Is it $\frac{1}{4}$?



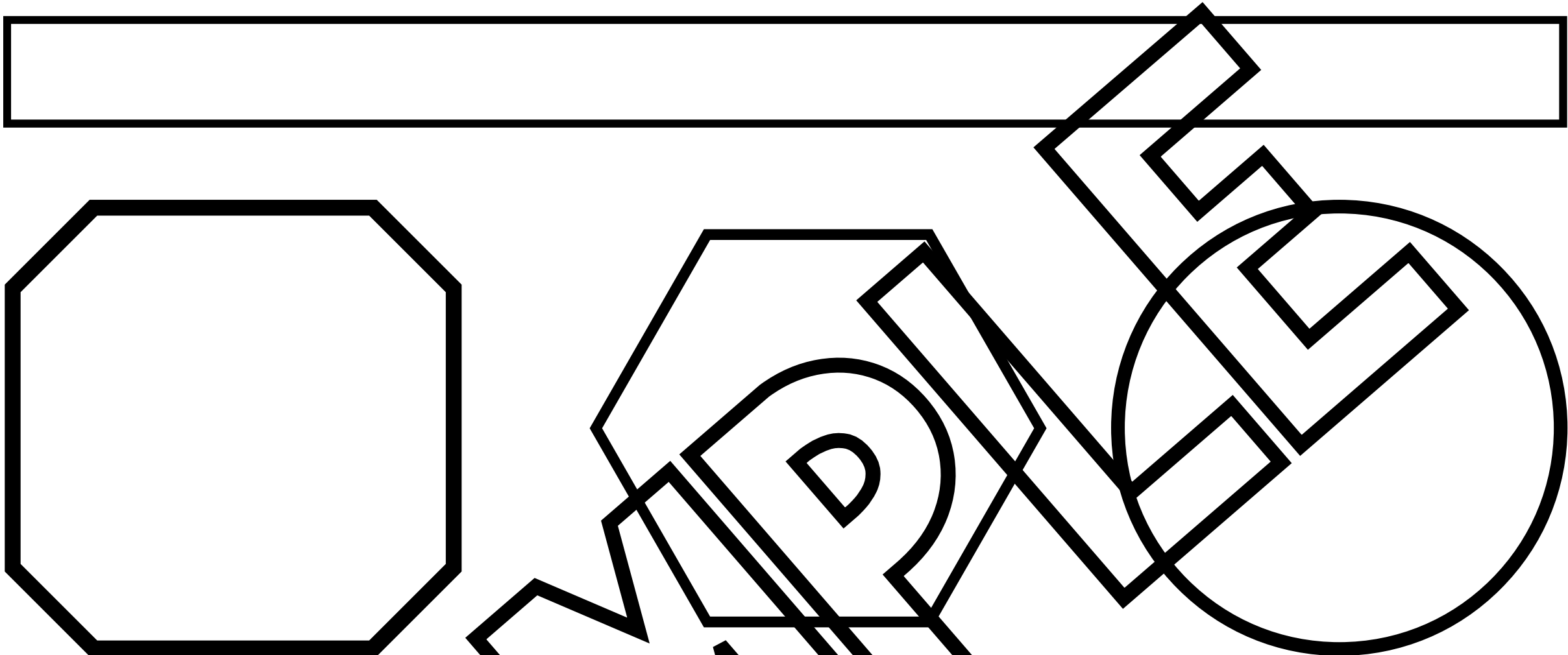
Is it $\frac{1}{3}$?





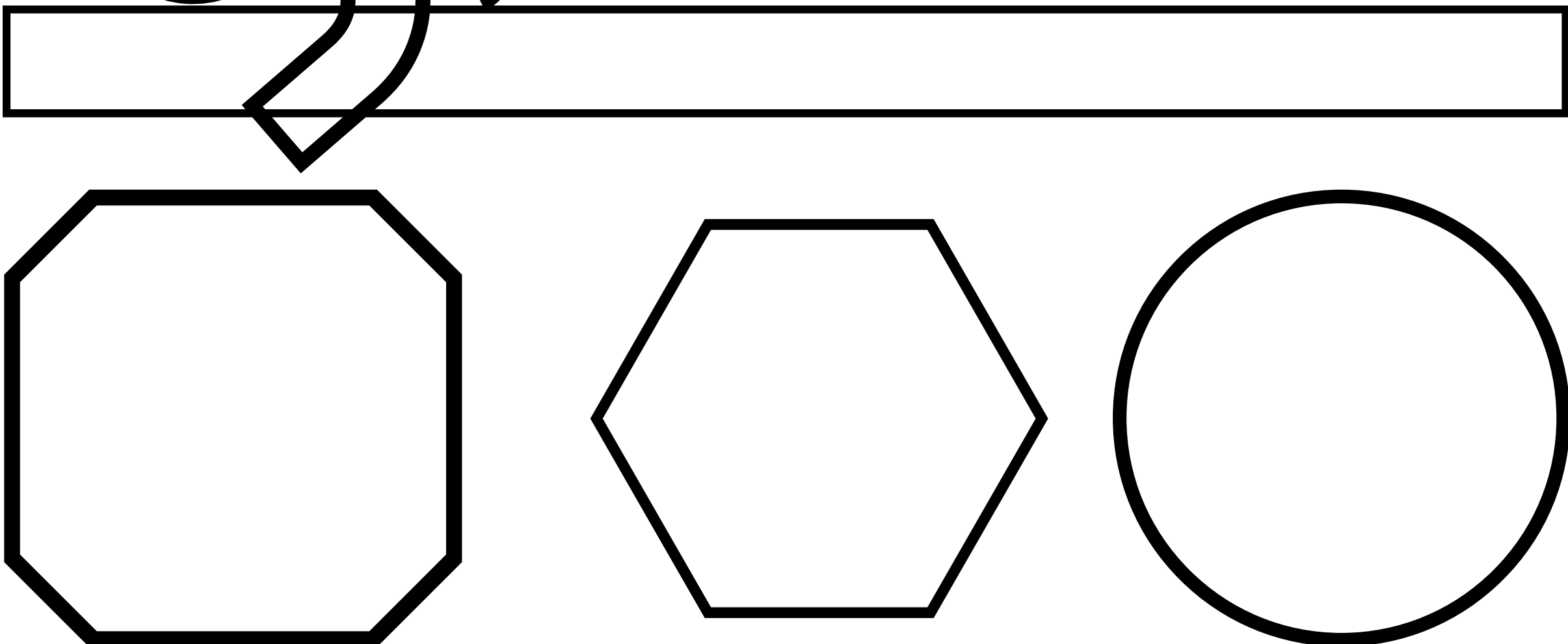
Reason the representation

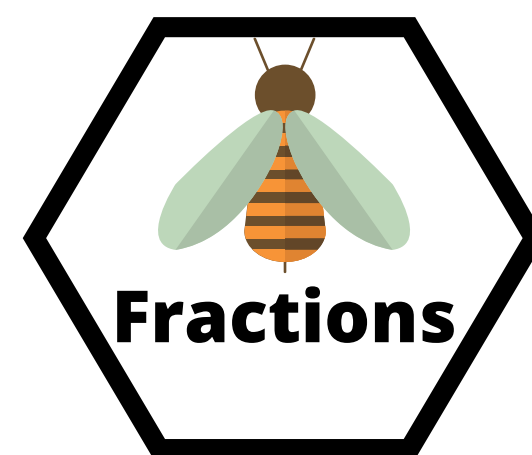
Shade $\frac{1}{2}$ of the shapes



Reason the representation

Shade $\frac{1}{4}$ of the shapes





Spot the mistake

$$\frac{1}{2} = \frac{3}{4}$$

Diagram showing the transformation from $\frac{1}{2}$ to $\frac{3}{4}$ with two yellow arrows labeled '+2' indicating the addition of 2 to both the numerator and the denominator.

$$\frac{1}{4} = \frac{5}{8}$$

Diagram showing the transformation from $\frac{1}{4}$ to $\frac{5}{8}$ with two yellow arrows labeled '+4' indicating the addition of 4 to both the numerator and the denominator.

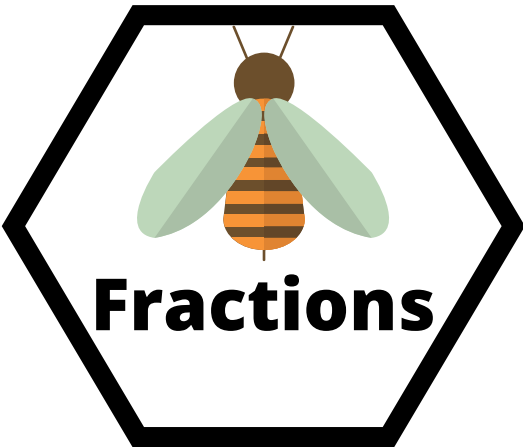
$$\frac{1}{3} = \frac{4}{6}$$

Diagram showing the transformation from $\frac{1}{3}$ to $\frac{4}{6}$ with two yellow arrows labeled '+3' indicating the addition of 3 to both the numerator and the denominator.

$$\frac{1}{5} = \frac{6}{10}$$

Diagram showing the transformation from $\frac{1}{5}$ to $\frac{6}{10}$ with two yellow arrows labeled '+4' and '+5' indicating the addition of 4 to the numerator and 5 to the denominator.

What's missing?



1	
$\frac{3}{4}$	

1	
$\frac{3}{5}$	

1	
$\frac{5}{7}$	

1	
	$\frac{3}{10}$

2	
$1\frac{5}{7}$	

3	
	$\frac{3}{10}$

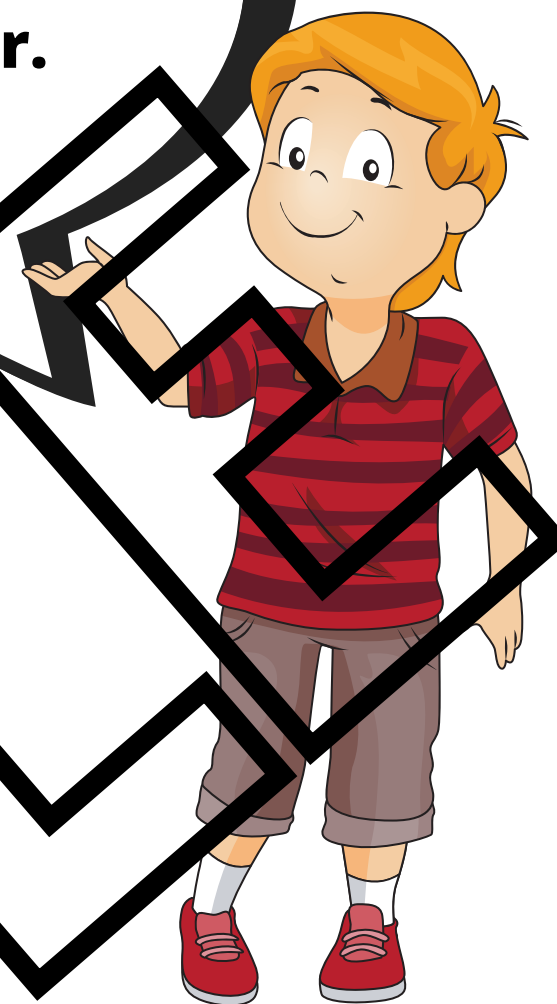


If, then...



If 480 has more digits than 48, then 480 is the greater number.

If 0.048 has more digits than 48, 0.048 is the greater number.



Same or different?

0.12 is the same as...

One **0.1** and two **0.01**

Twelve 0.1

Twelve 0.01



Money problems.

Strawberries are more expensive than a banana.

Strawberries are cheaper than an avocado.

A banana is than an avocado.

Strawberries

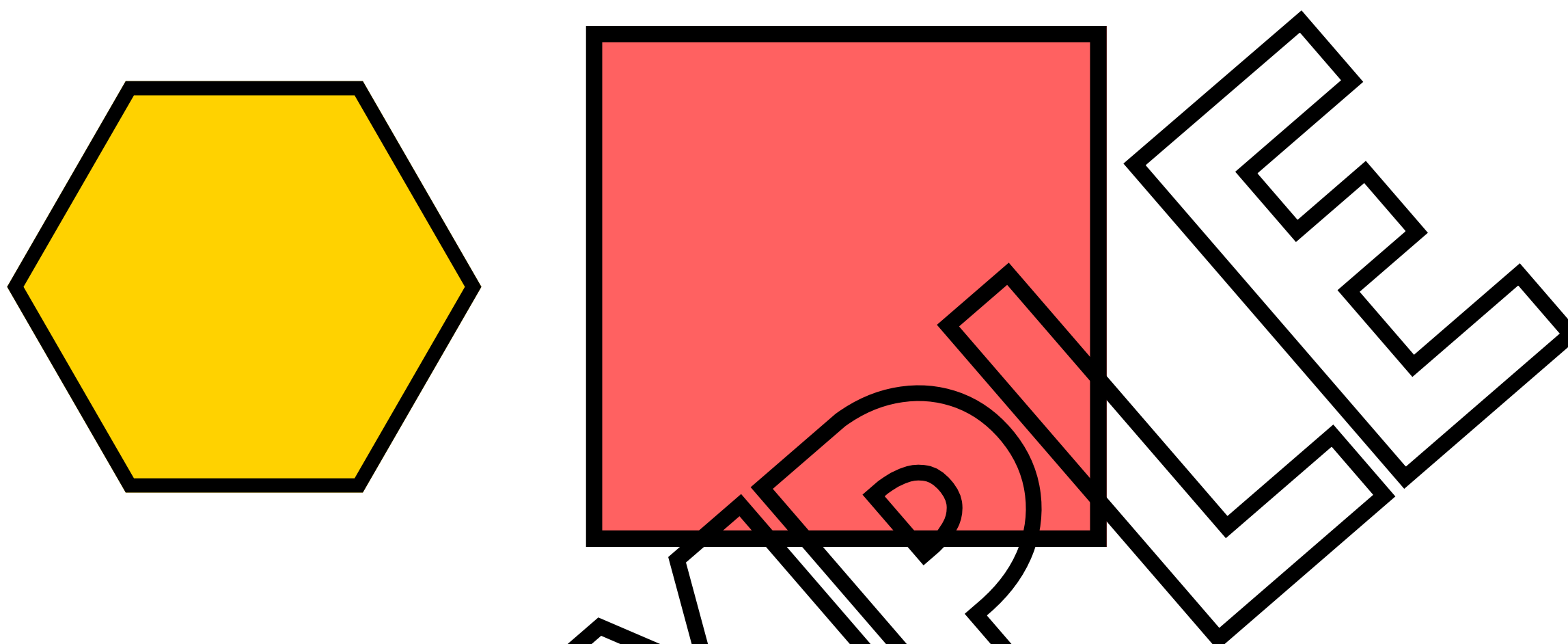
Banana

Avacado



Measure

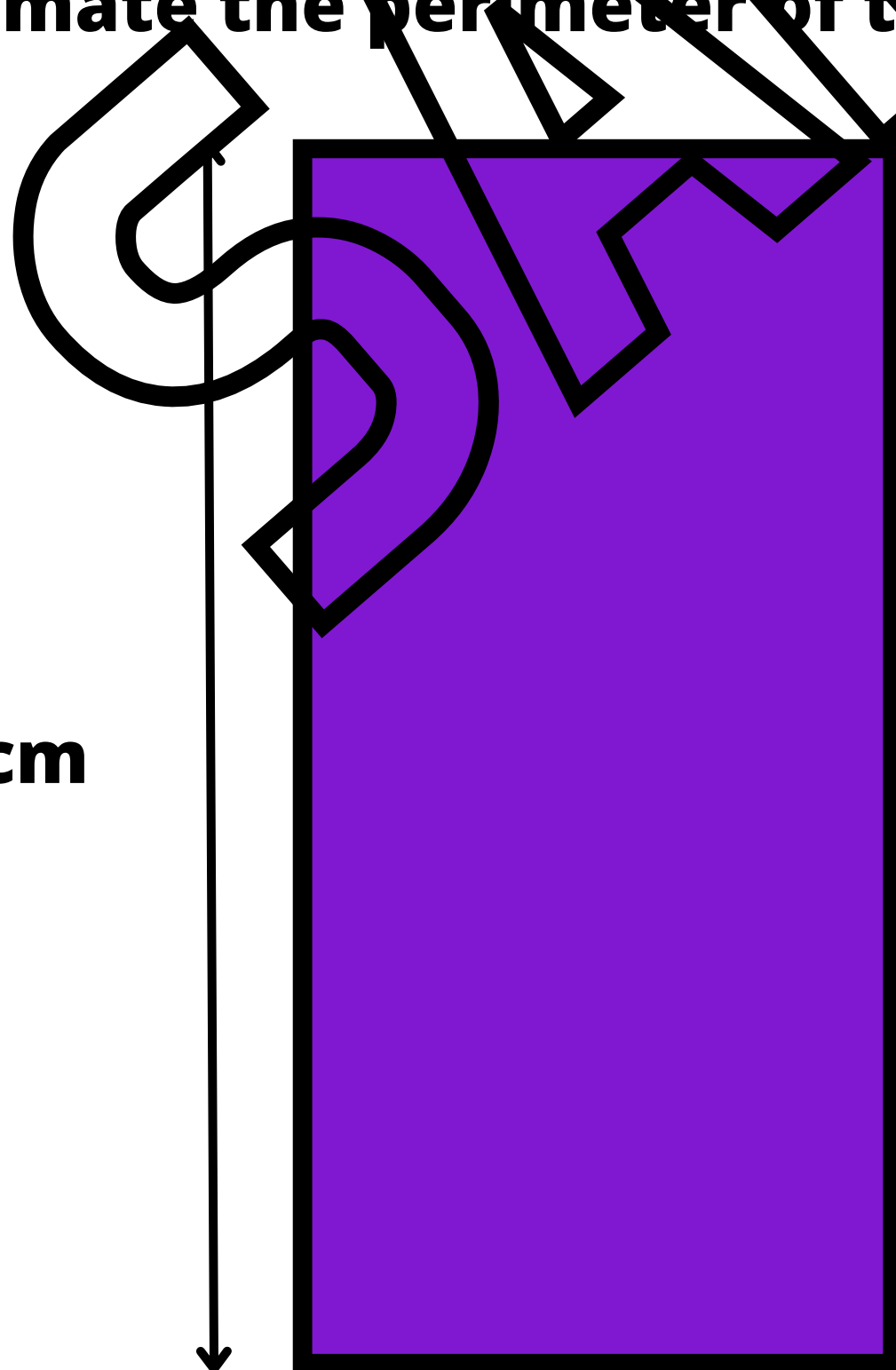
Use a ruler to measure which shape has the bigger perimeter.



Perimeter.

Estimate the perimeter of the shape:

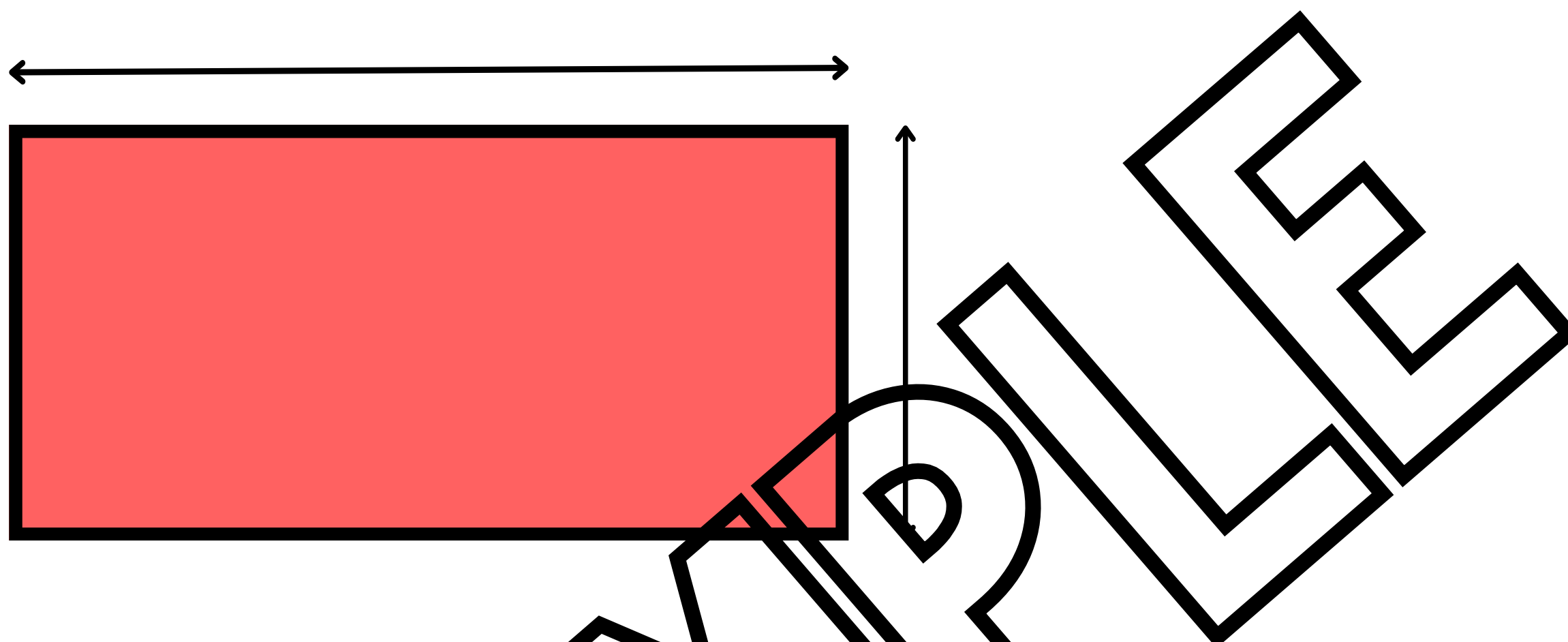
8cm





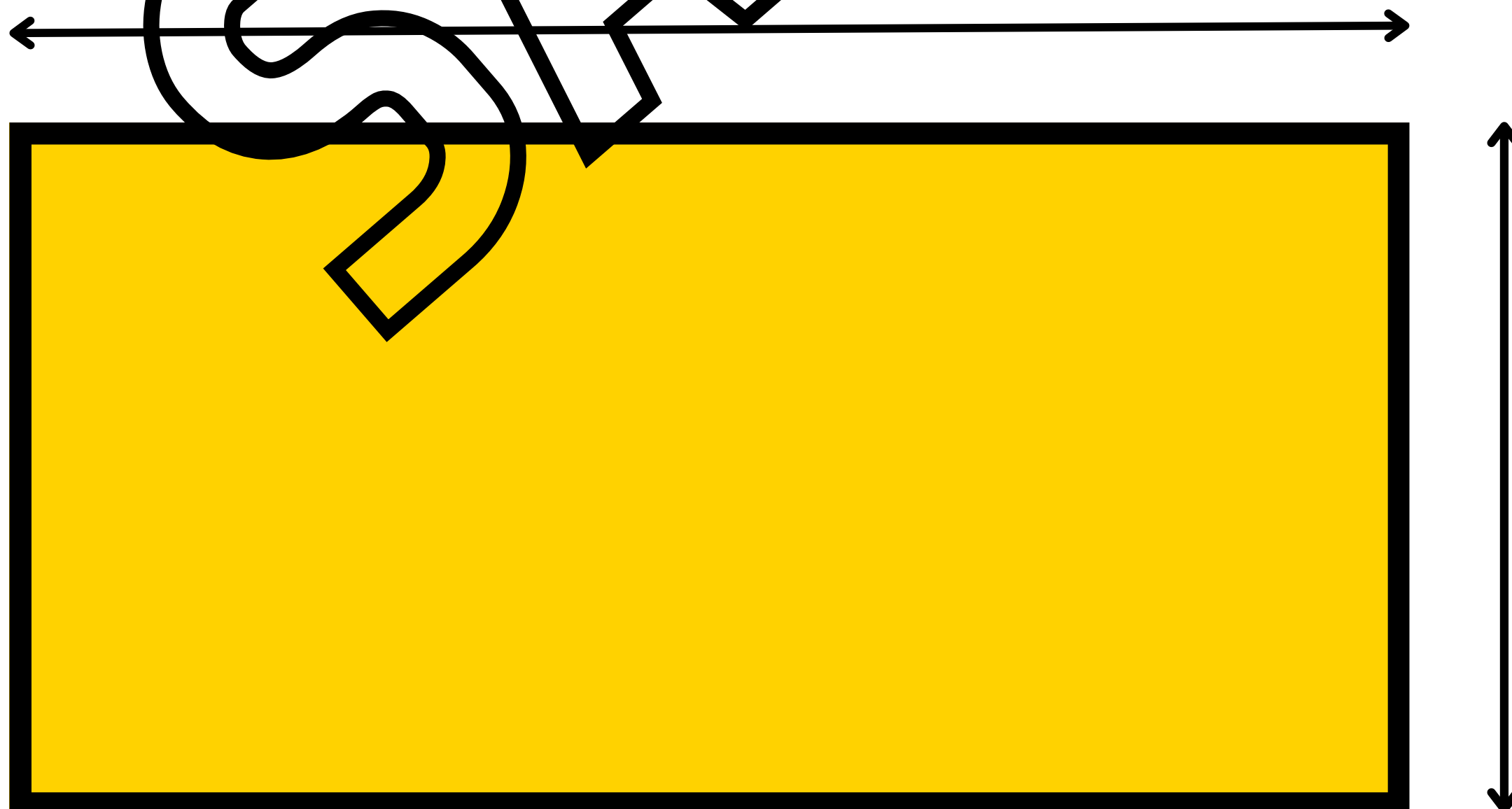
How many ways?

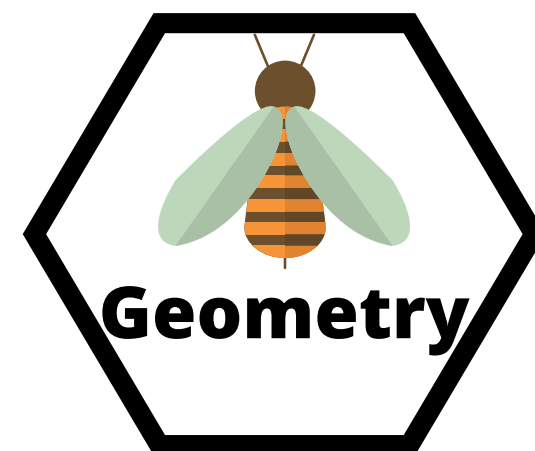
How many ways can you draw a rectangle with a perimeter of 24cm?



How many ways?

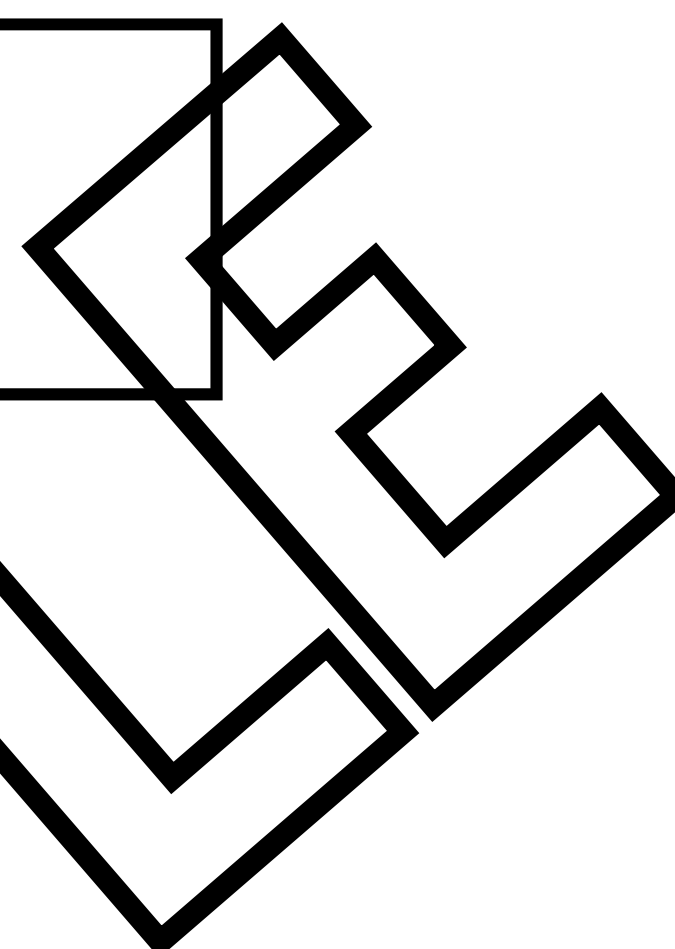
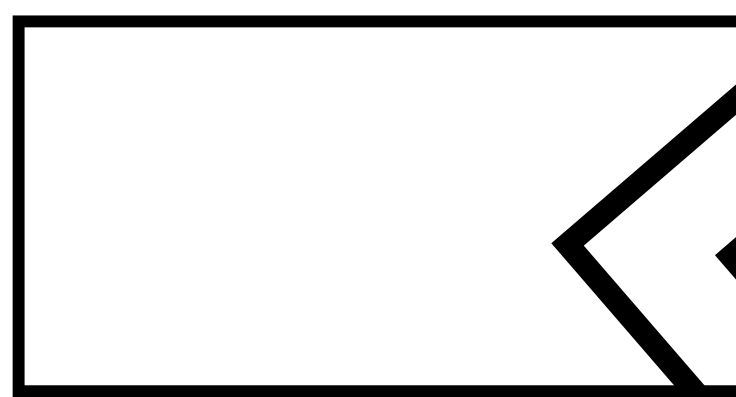
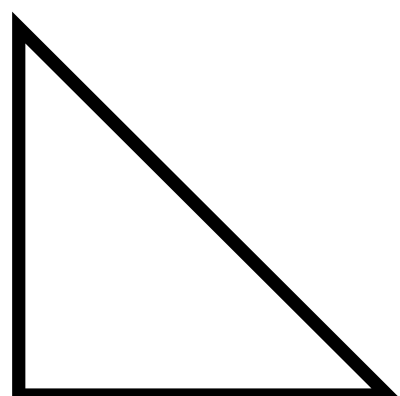
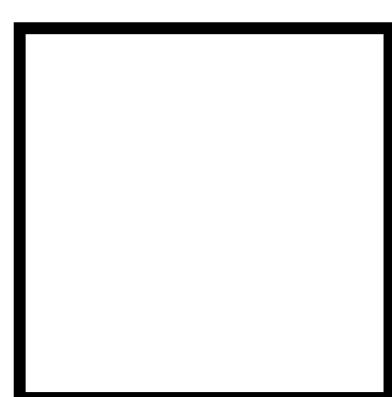
How many ways can you draw a rectangle with a perimeter of 48cm?





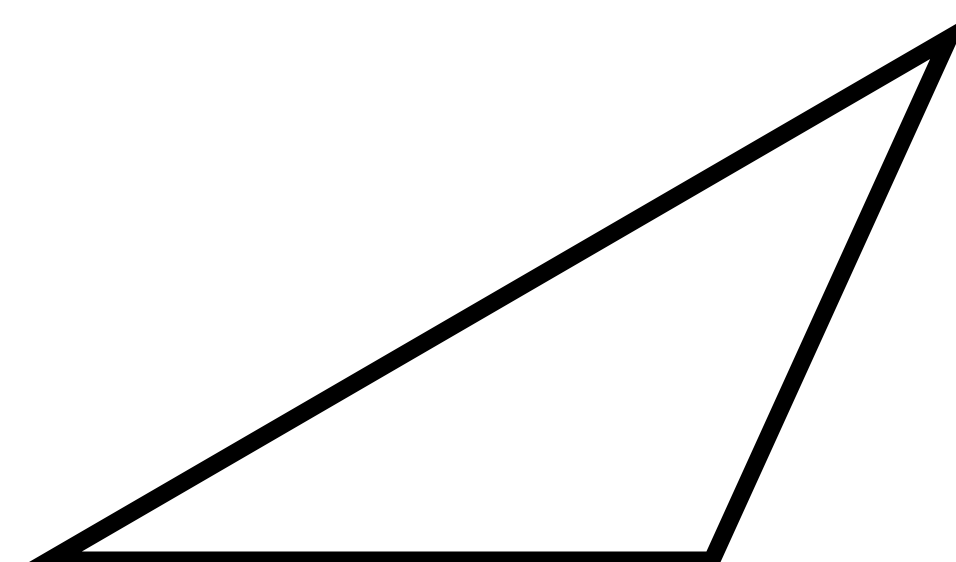
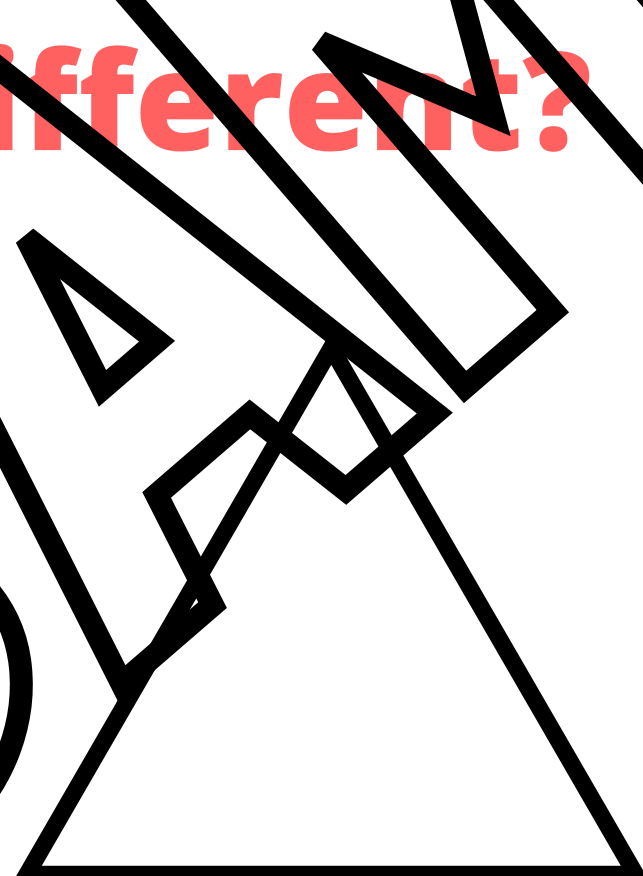
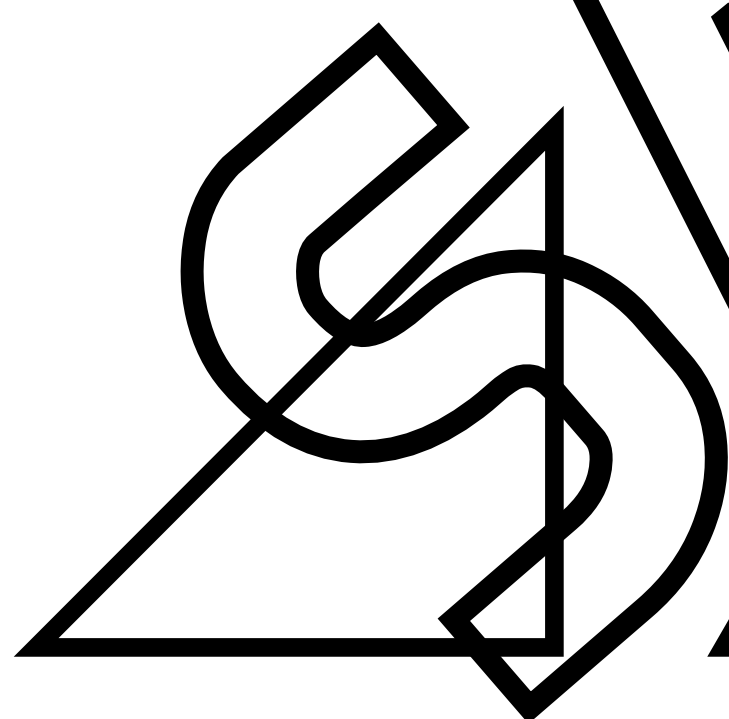
What is the same?

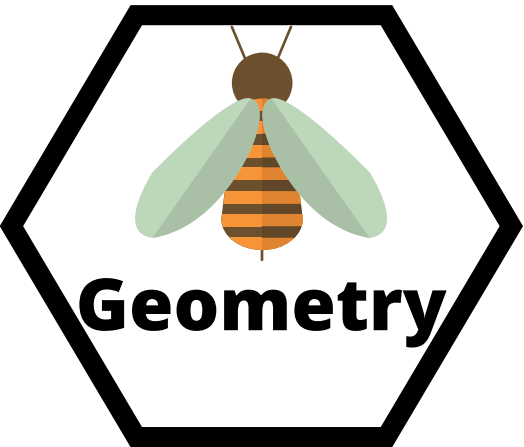
What is different?



What is the same?

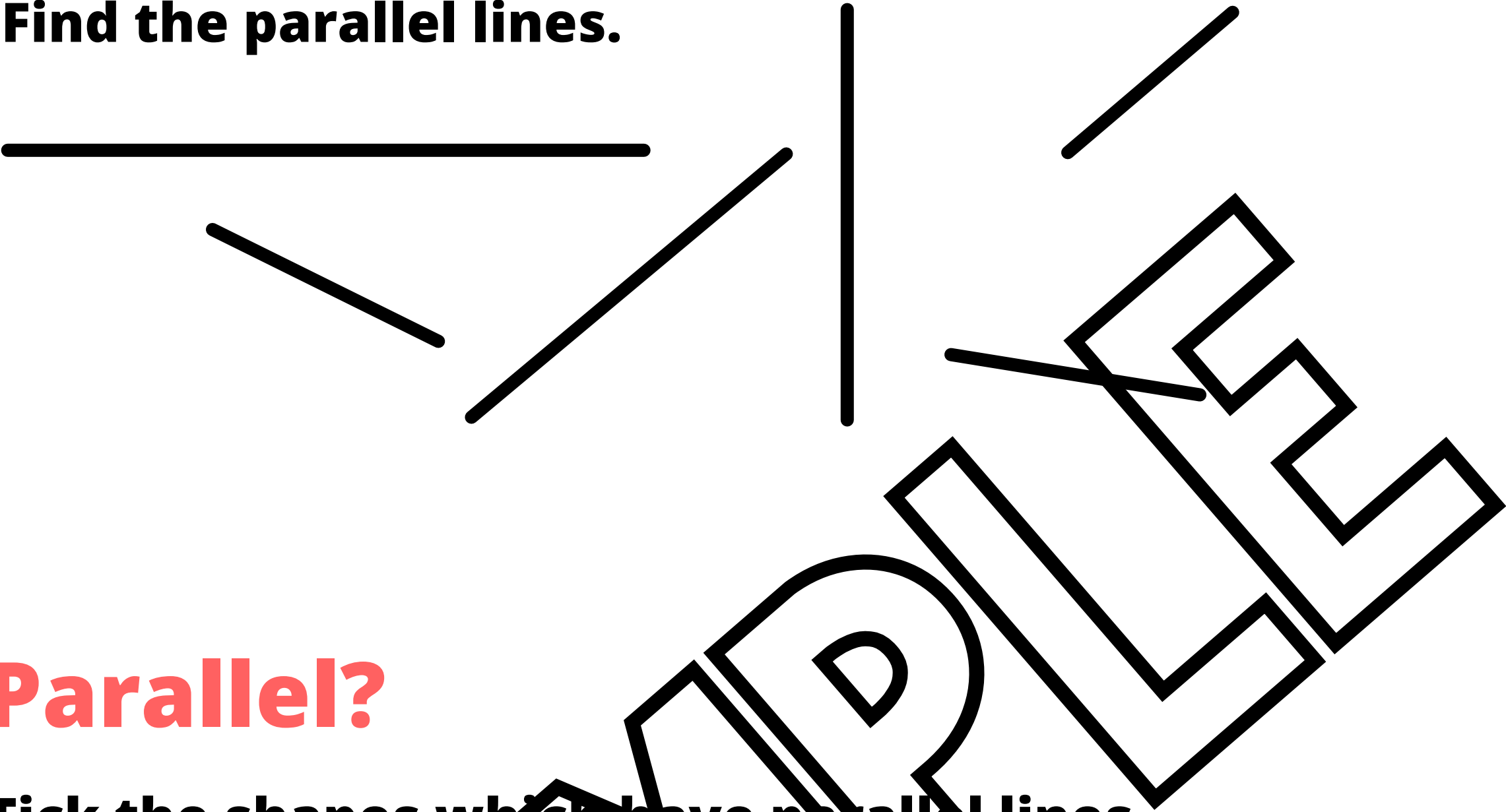
What is different?





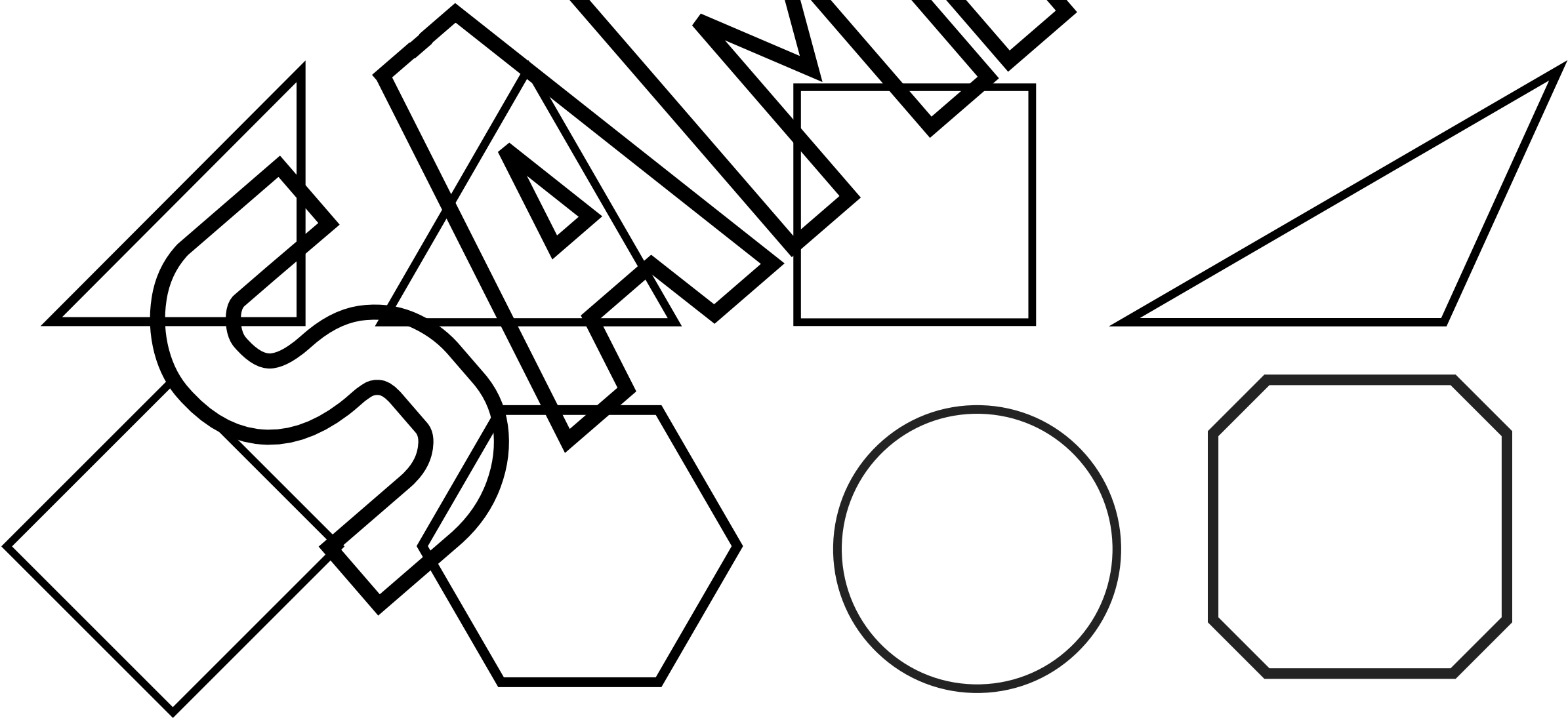
Parallel?

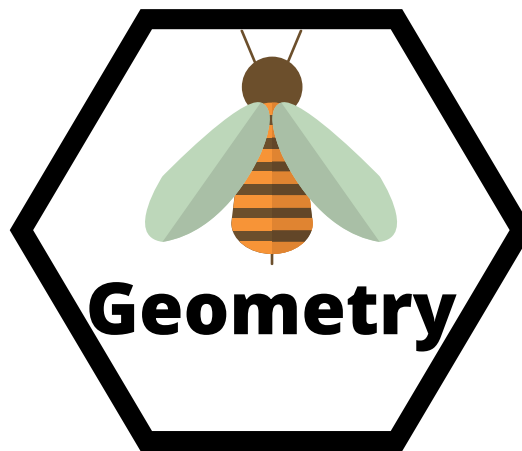
Find the parallel lines.



Parallel?

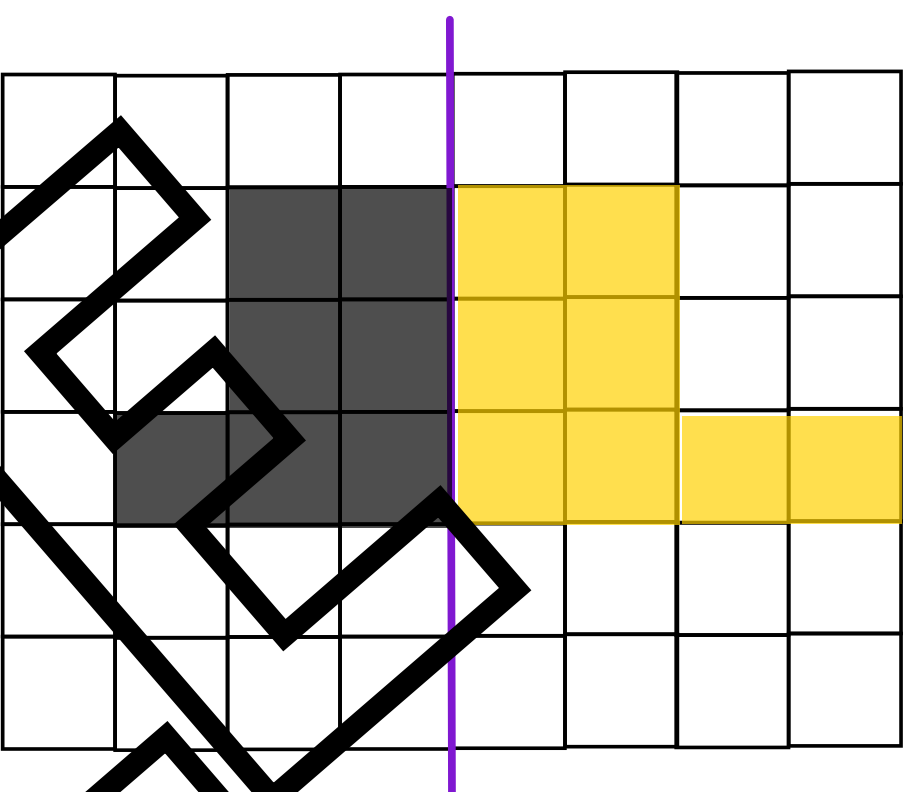
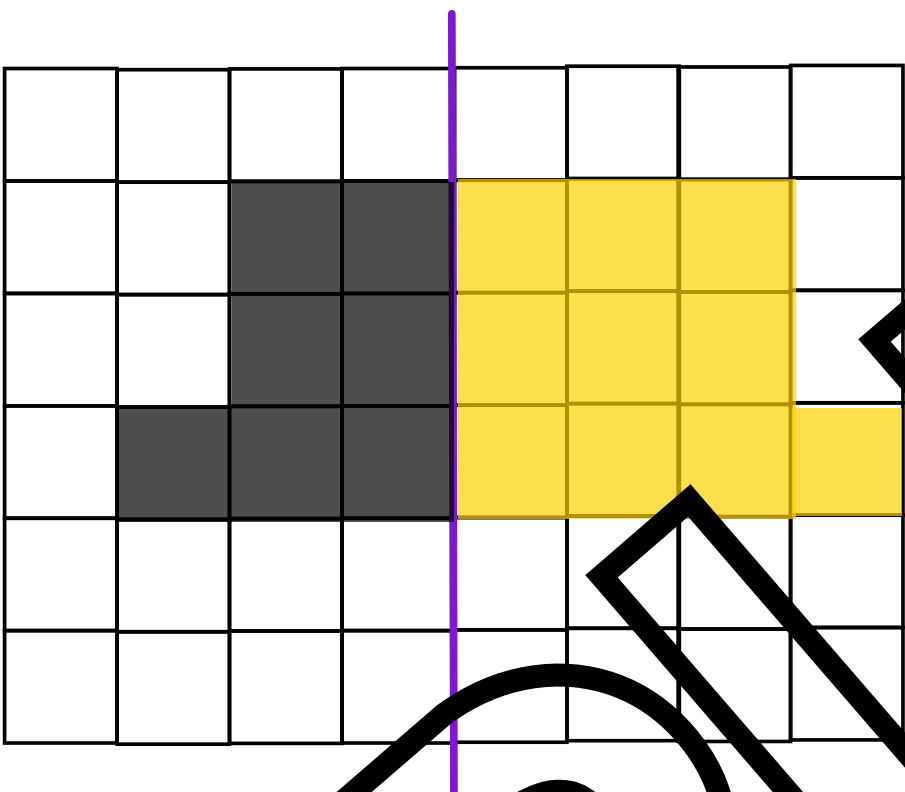
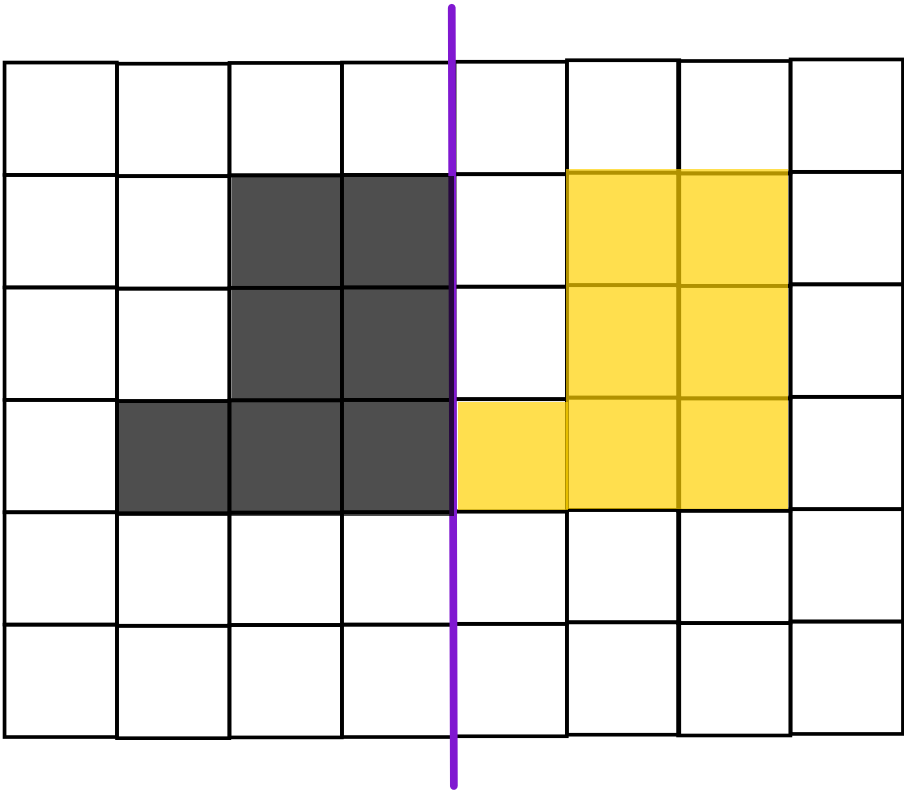
Tick the shapes which have parallel lines.





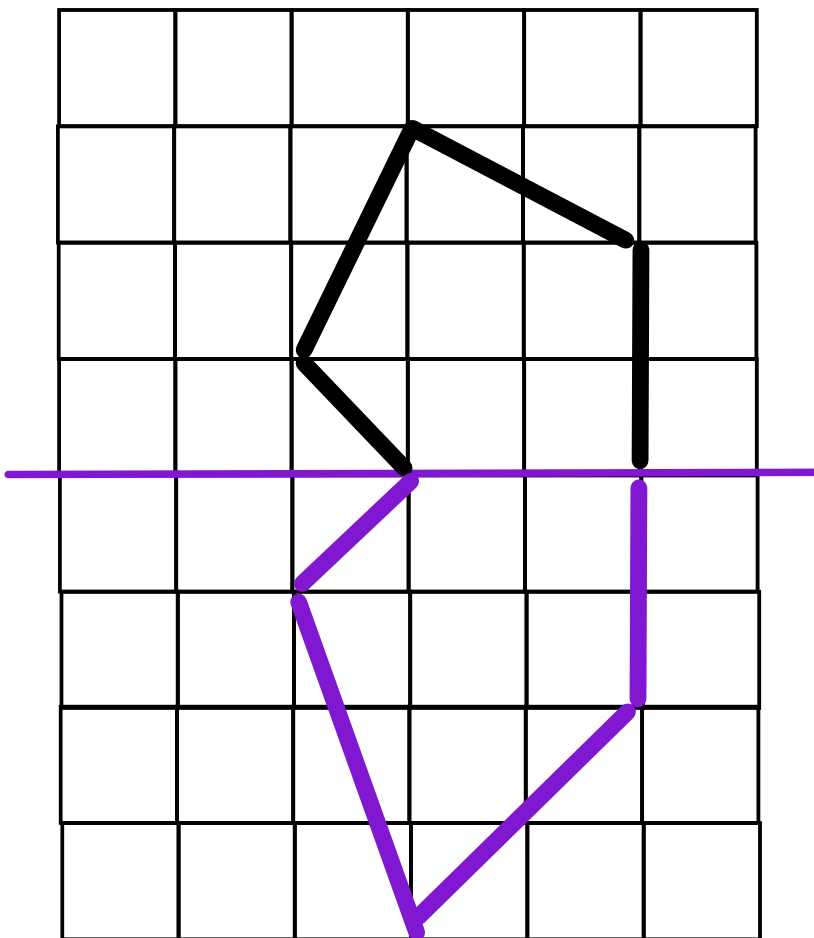
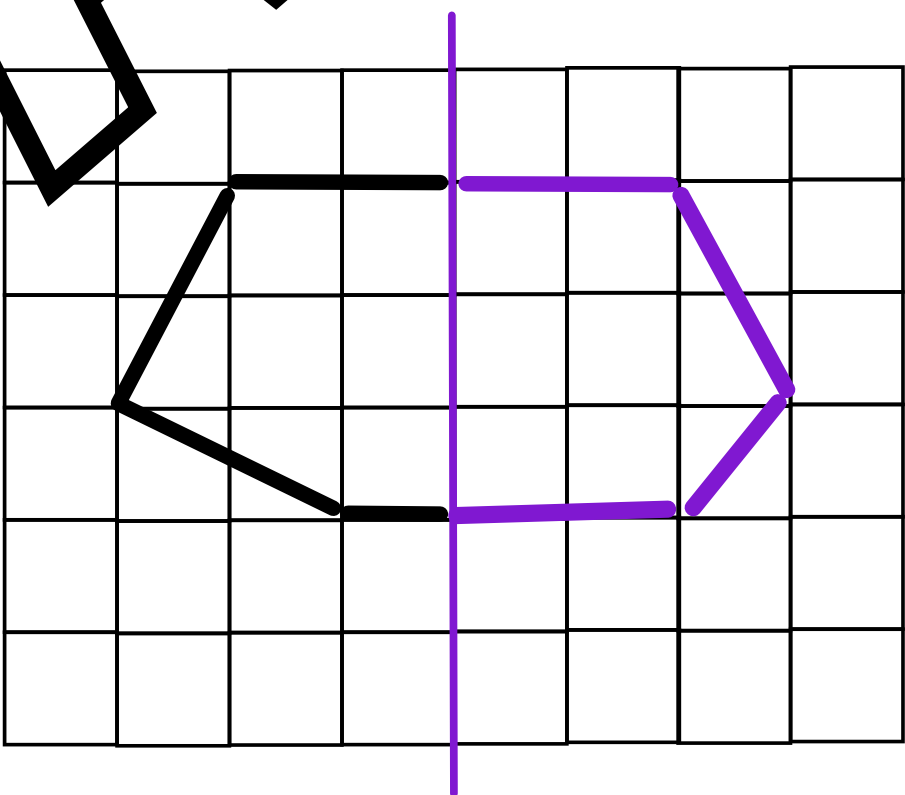
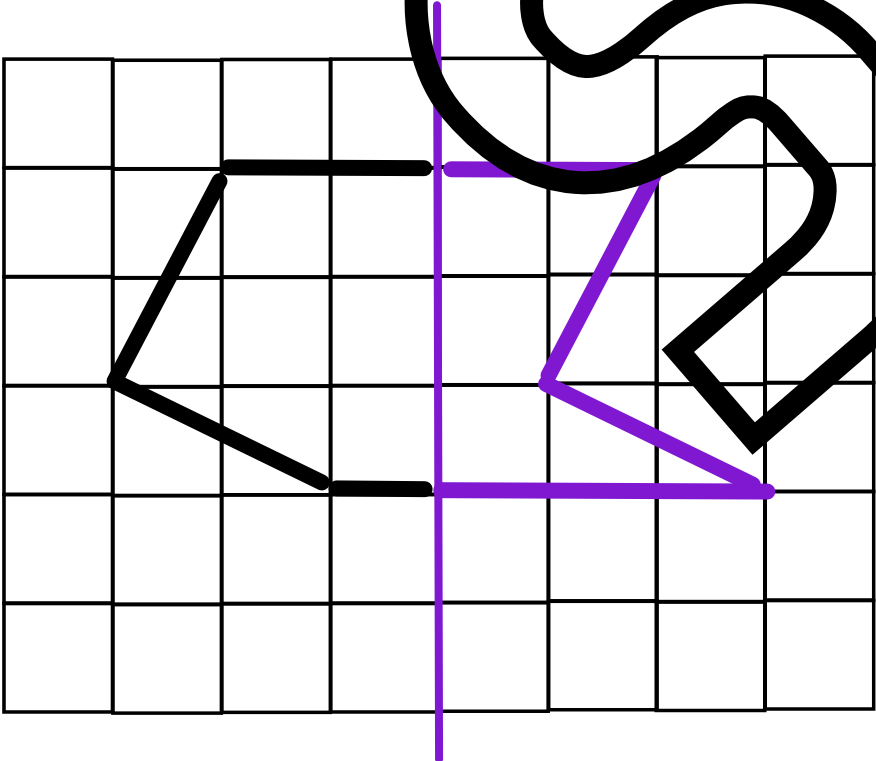
What went wrong?

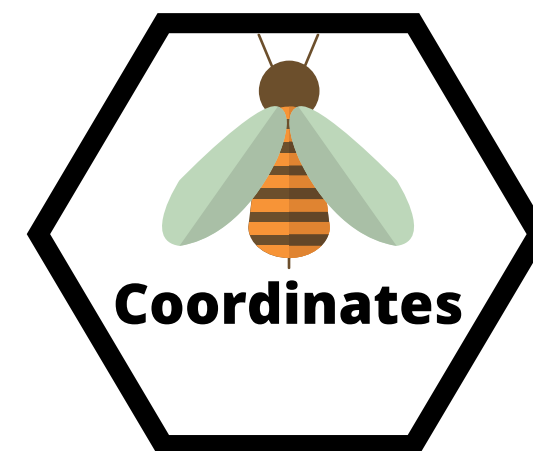
What went wrong with the reflection?



What went wrong?

What went wrong with the reflection?

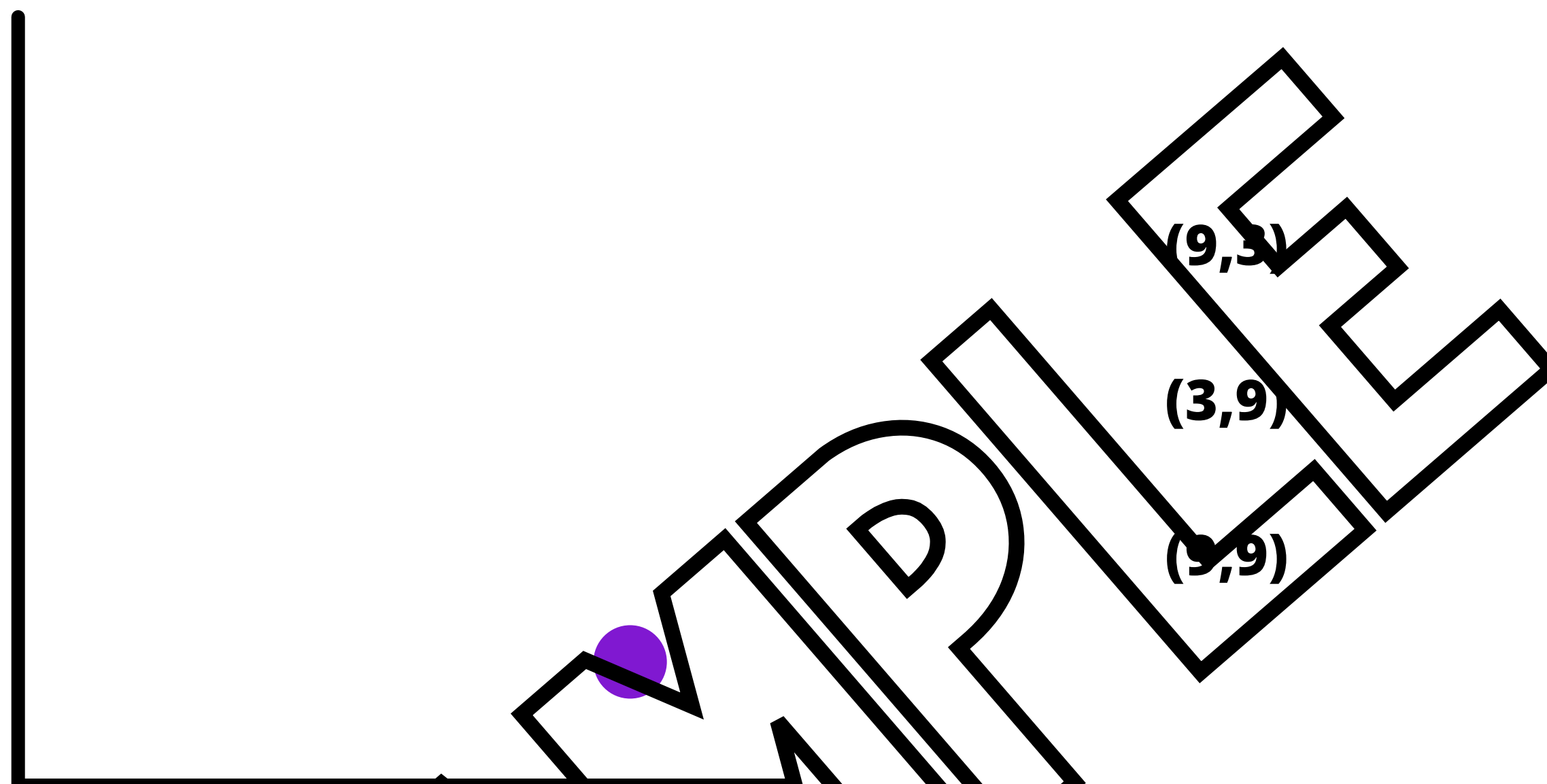




Where?

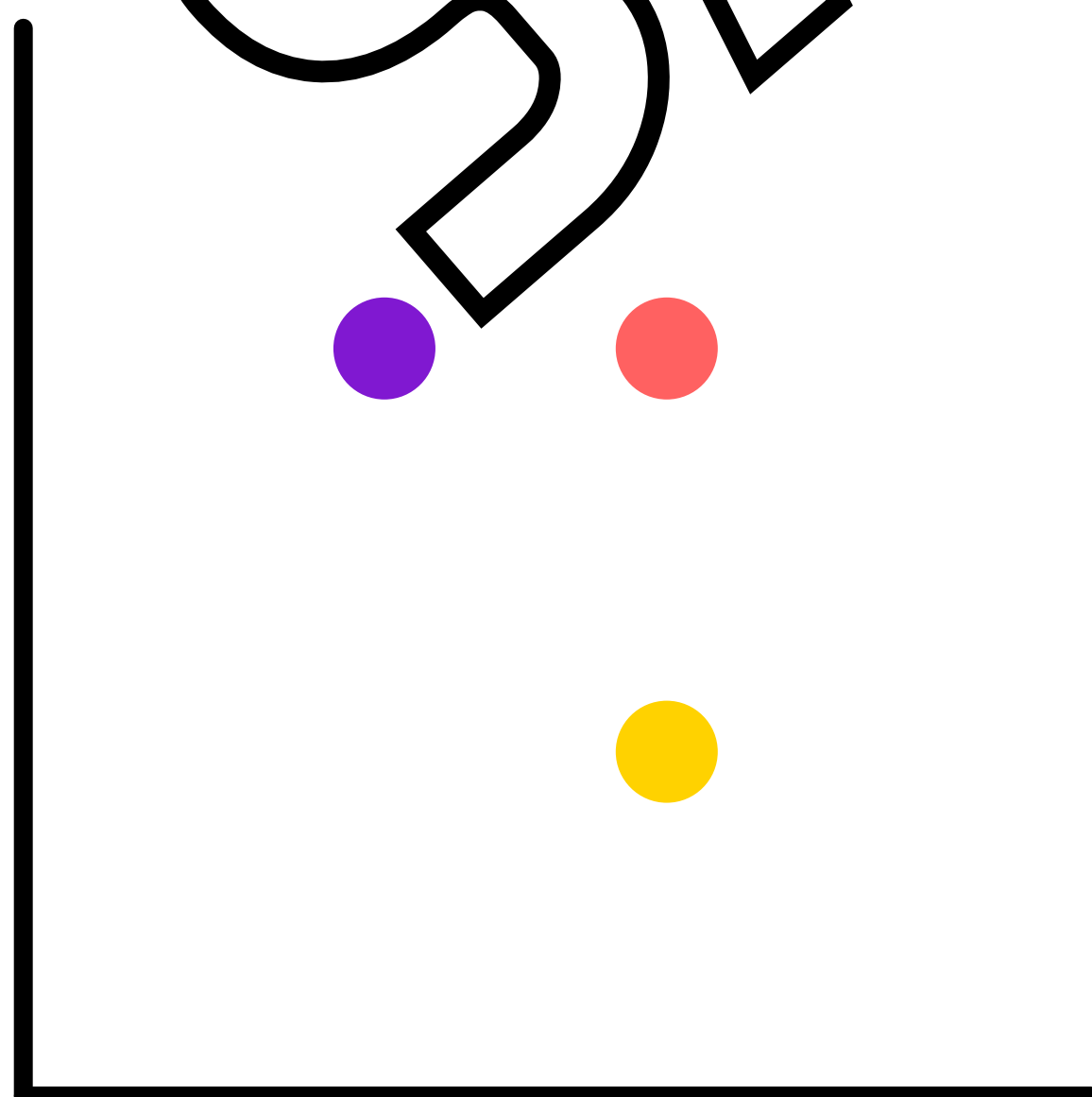
What could the coordinates be for the dot?

What could the coordinates NOT be?



If, then...

If the purple dot is at coordinates (3,8). Estimate the coordinates of the other dots.

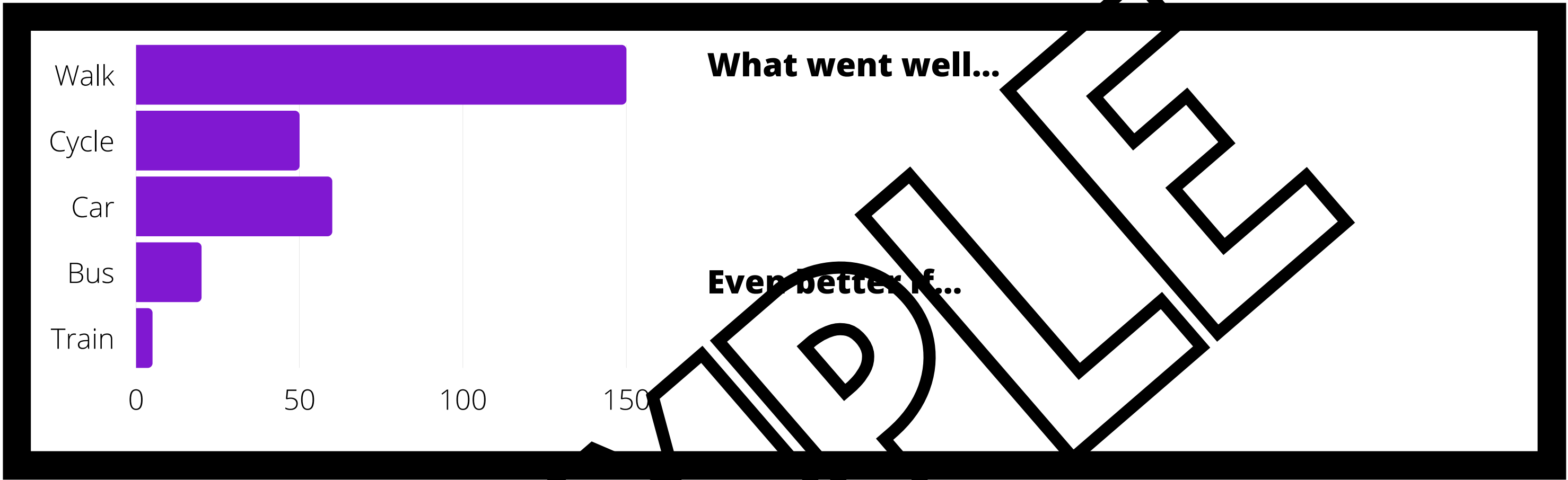


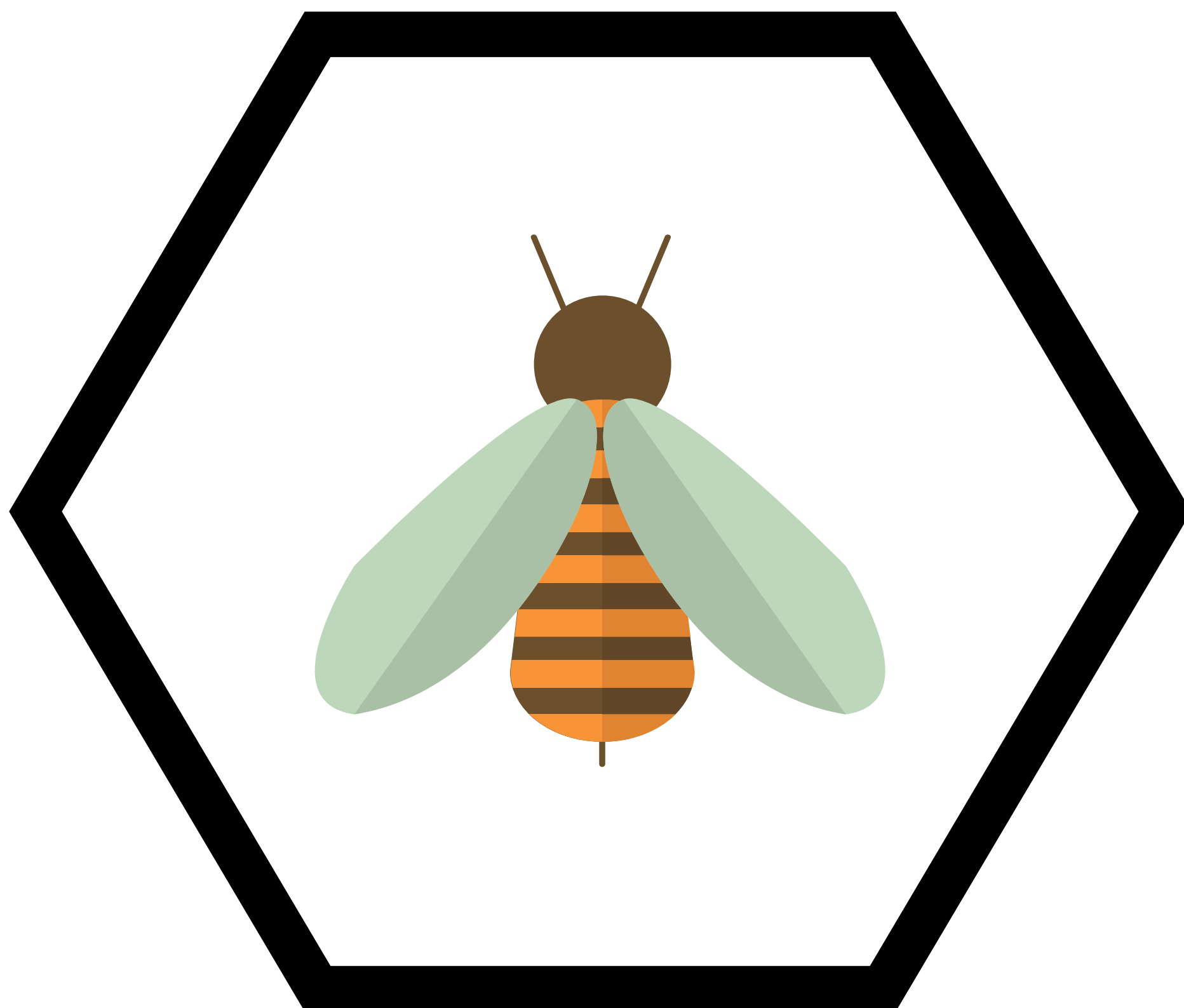
Interpret and draw.

Walk - 150
Cycle - 50
Car - 60
Bus - 20
Train - 5



The data shows how children get to school. Look at the graphs and suggest what it good at about them and how to improve them.





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