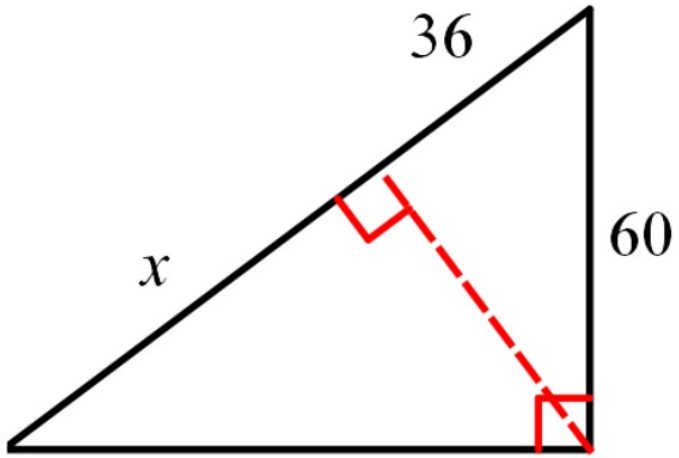
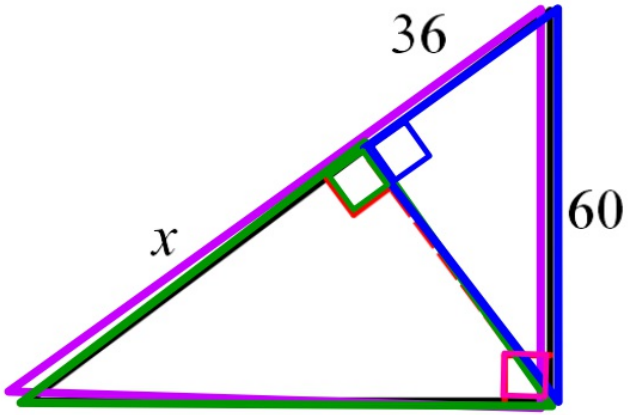
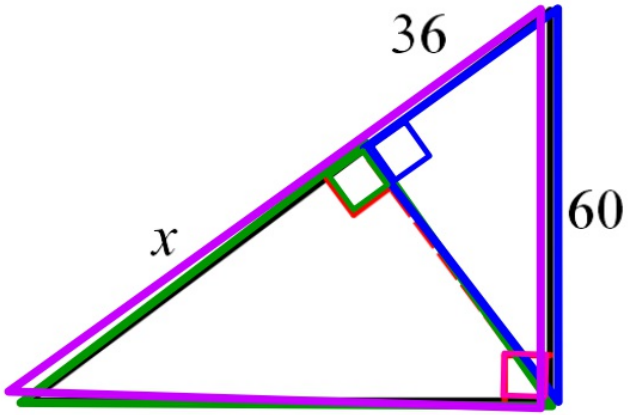
Good afternoon

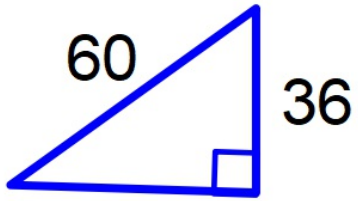
Warm up: Find the value of x in the diagram below 2 different ways:

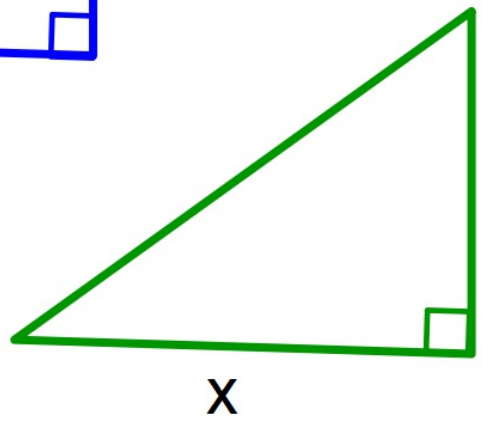


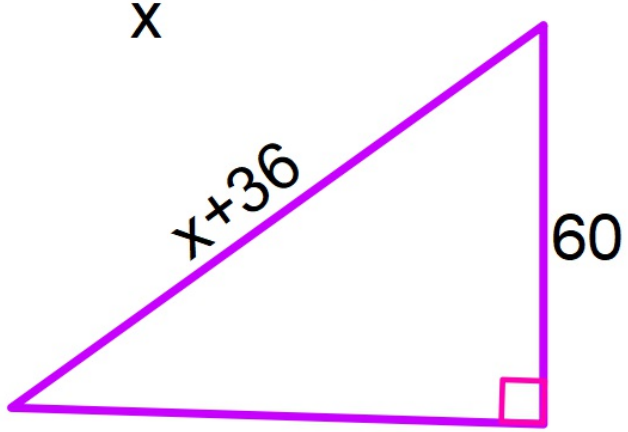
Reminders:
- tutoring today 4-5p
- retakes in DS Th/Fri

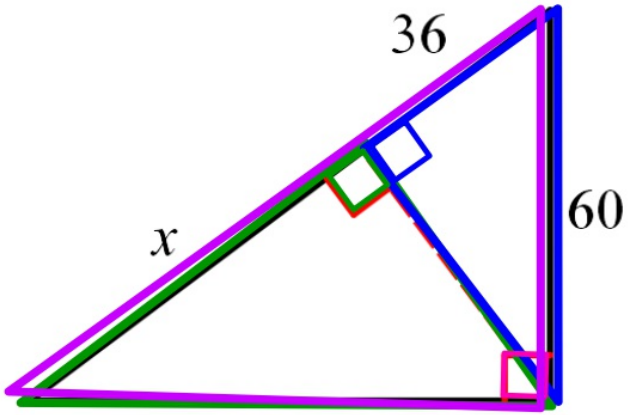

36
60
x

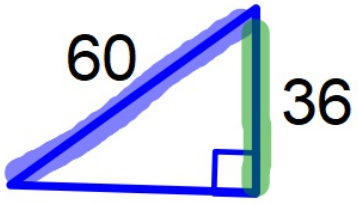

36
x
60

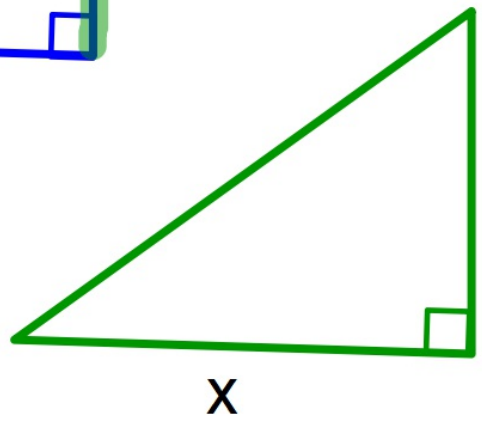

60
36

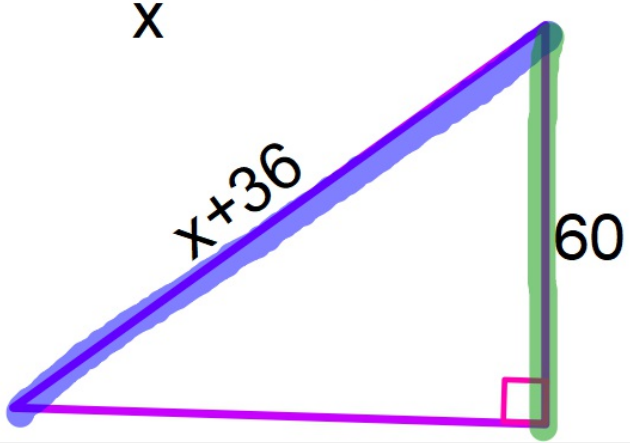

x

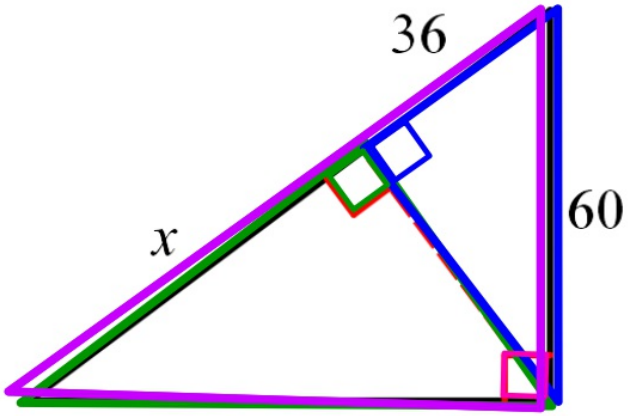

x+36
60

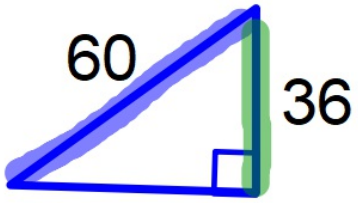

36
x
60

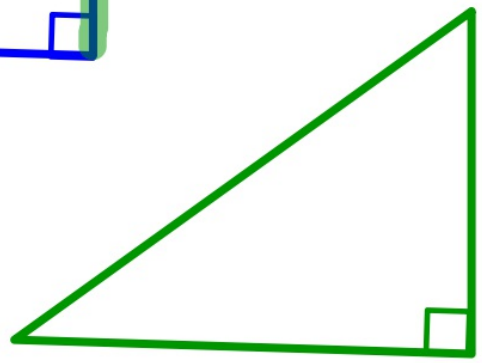

60
36


x

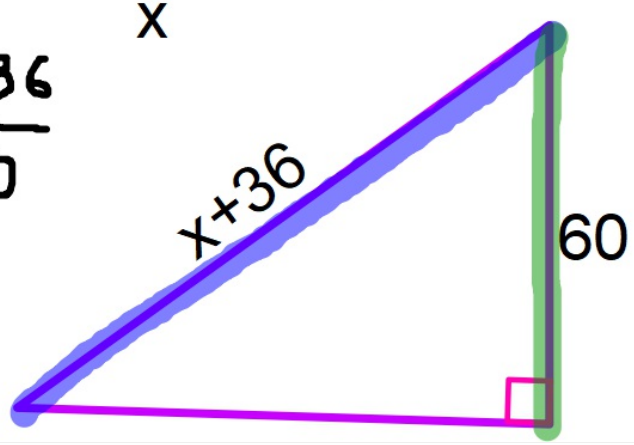

x+36
60

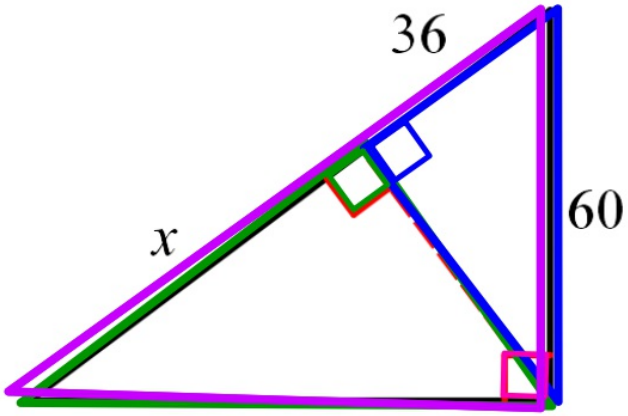


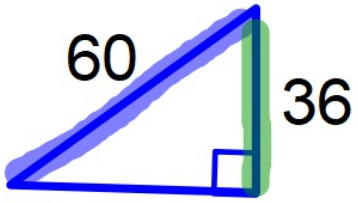


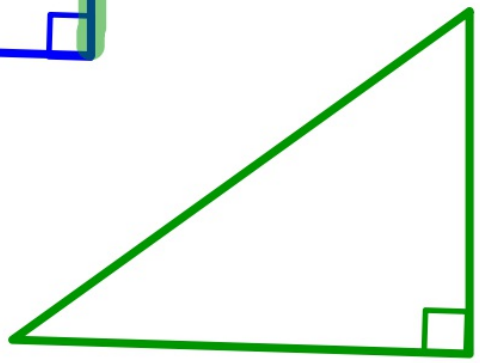


$$\frac{60}{36} = \frac{x+36}{60}$$









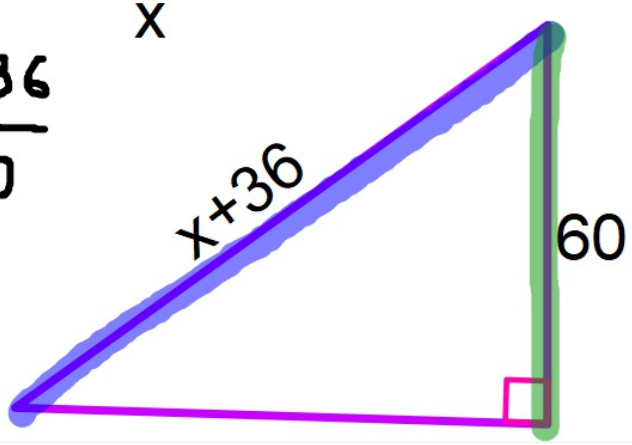
$60*60 = 36(x+36)$

$3600 = 36x + 1296$

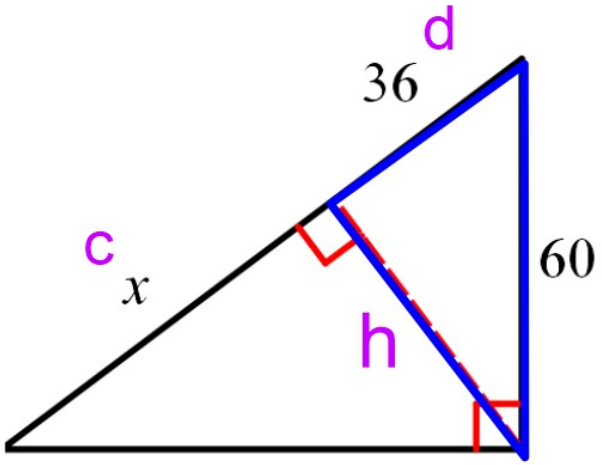
$2304 = 36x$

$64 = x$

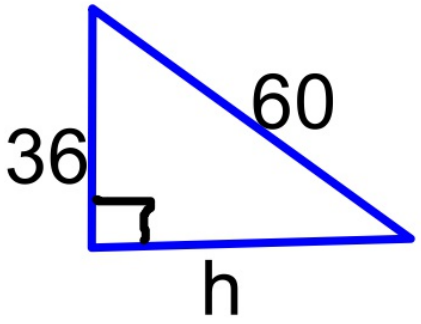
$\frac{60}{36} = \frac{x+36}{60}$



Another way?



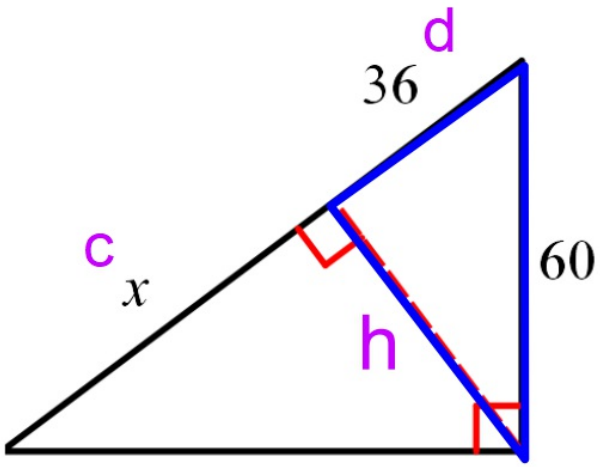
1.



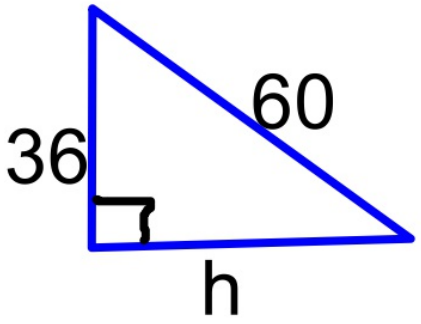
Use Pythagorean Theorem to find h

h=48

Another way?



1.



Use Pythagorean Theorem to find h

$h=48$

2. Use geometric mean formula to find x

$h^2 = cd$

$48^2 = x * 36$

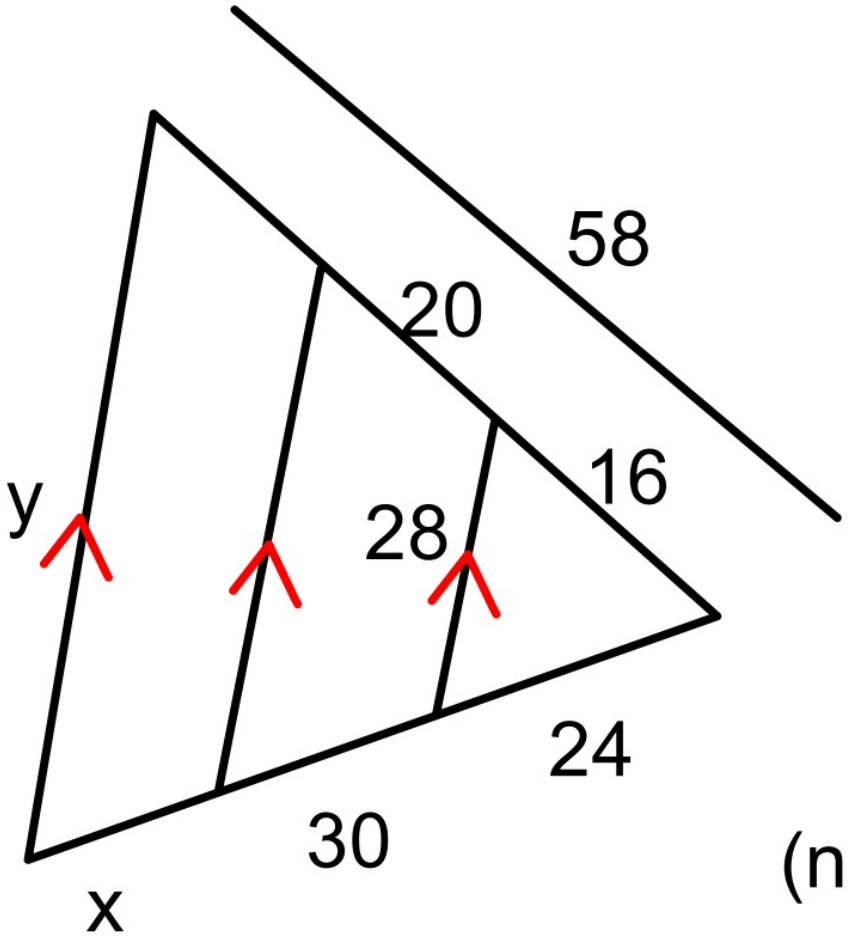
$2304=36x$

$64=x$

Visibly Random Grouping

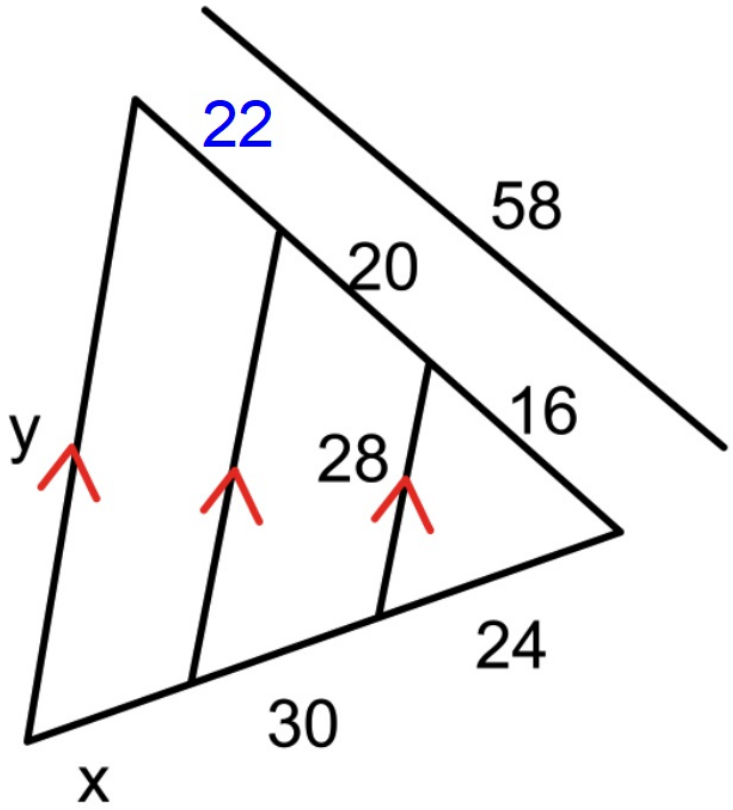
Quick review of triangle proportionality

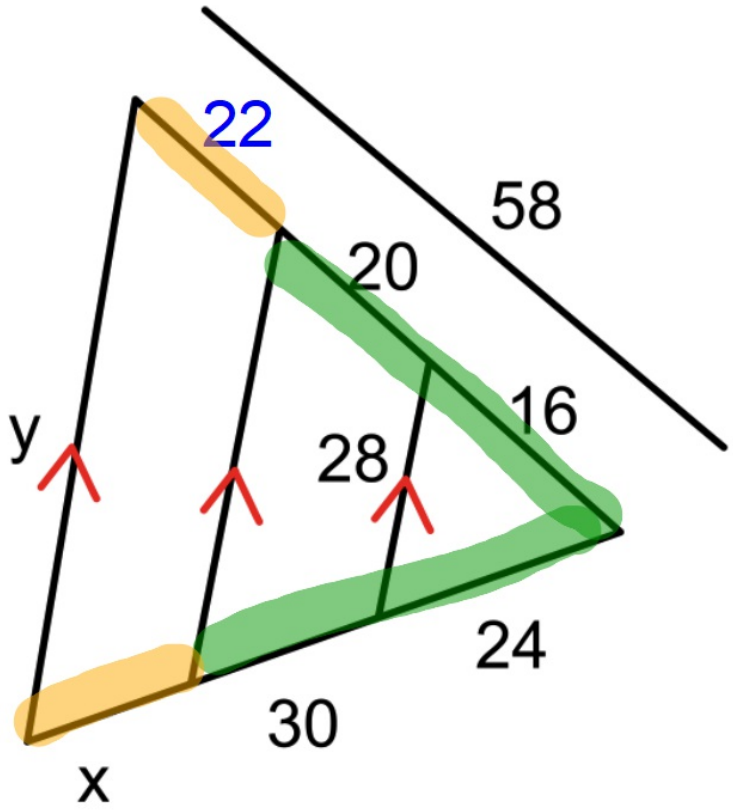
(attach to notebooks)

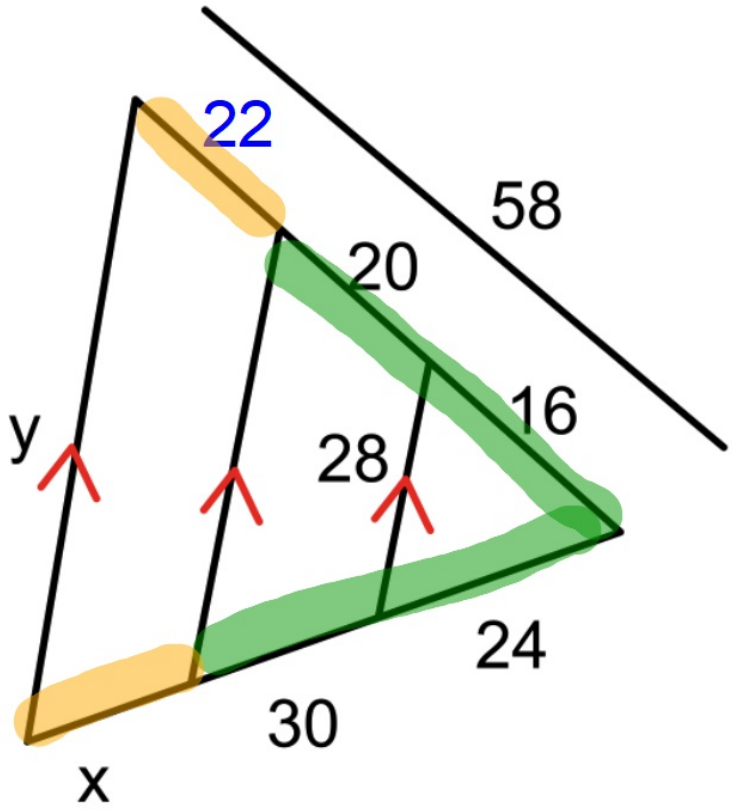


Find the values of x and y.
Note the parallel segments.

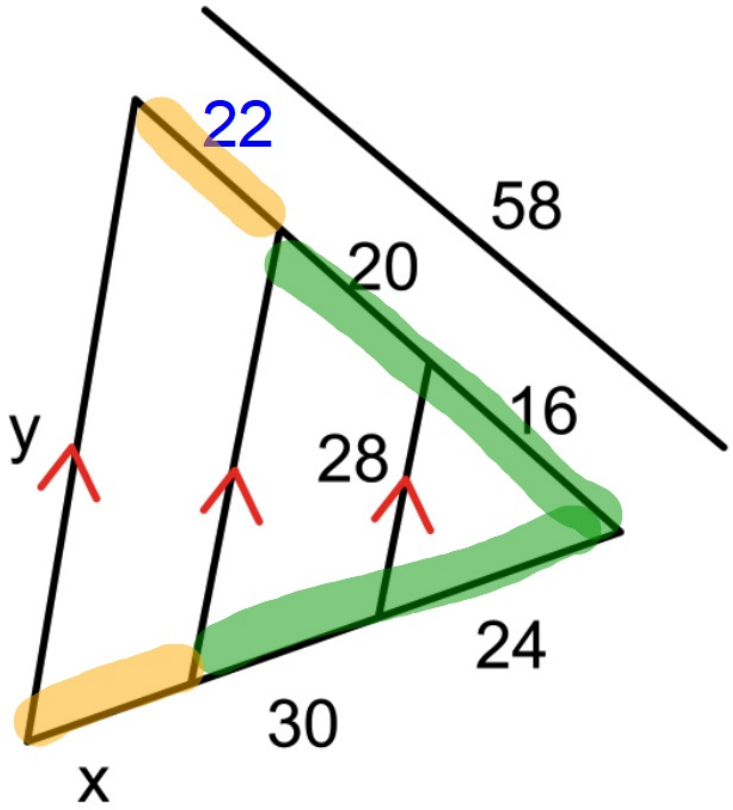
(not to scale)


22
58
20
16
y
28
24
30
x


22
58
20
16
y
28
24
30
x



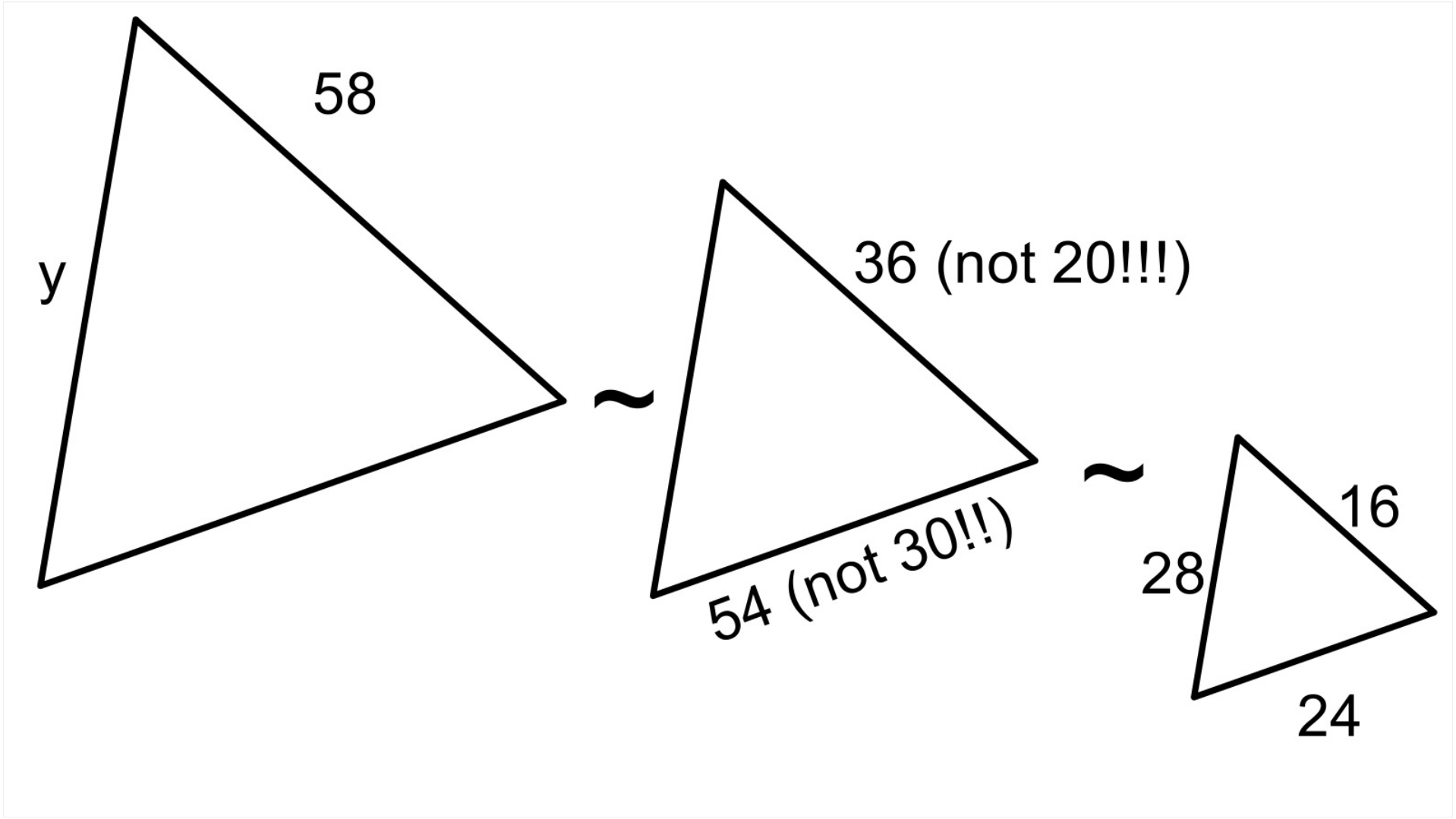
$$\frac{36}{22} = \frac{54}{x}$$

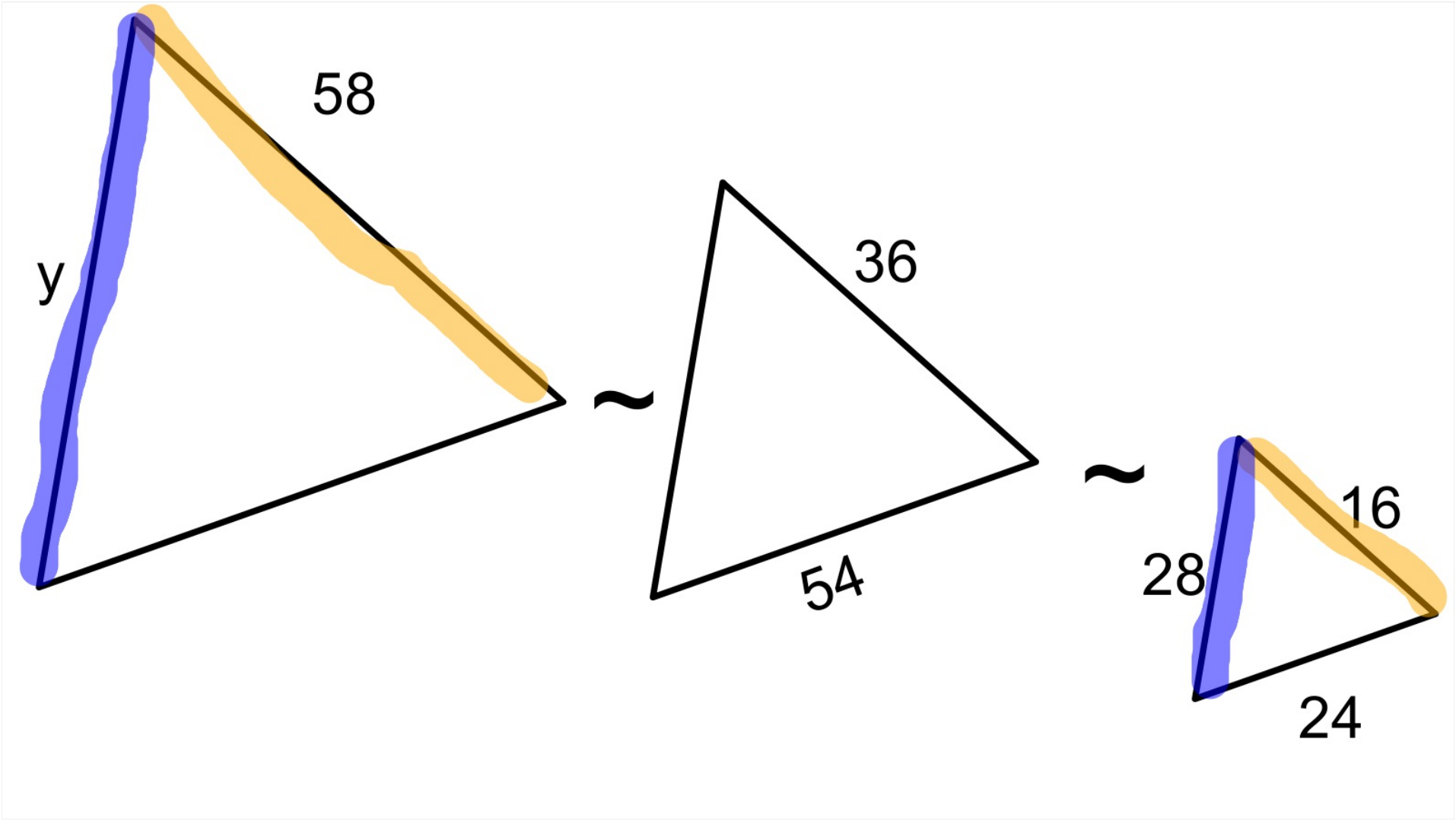


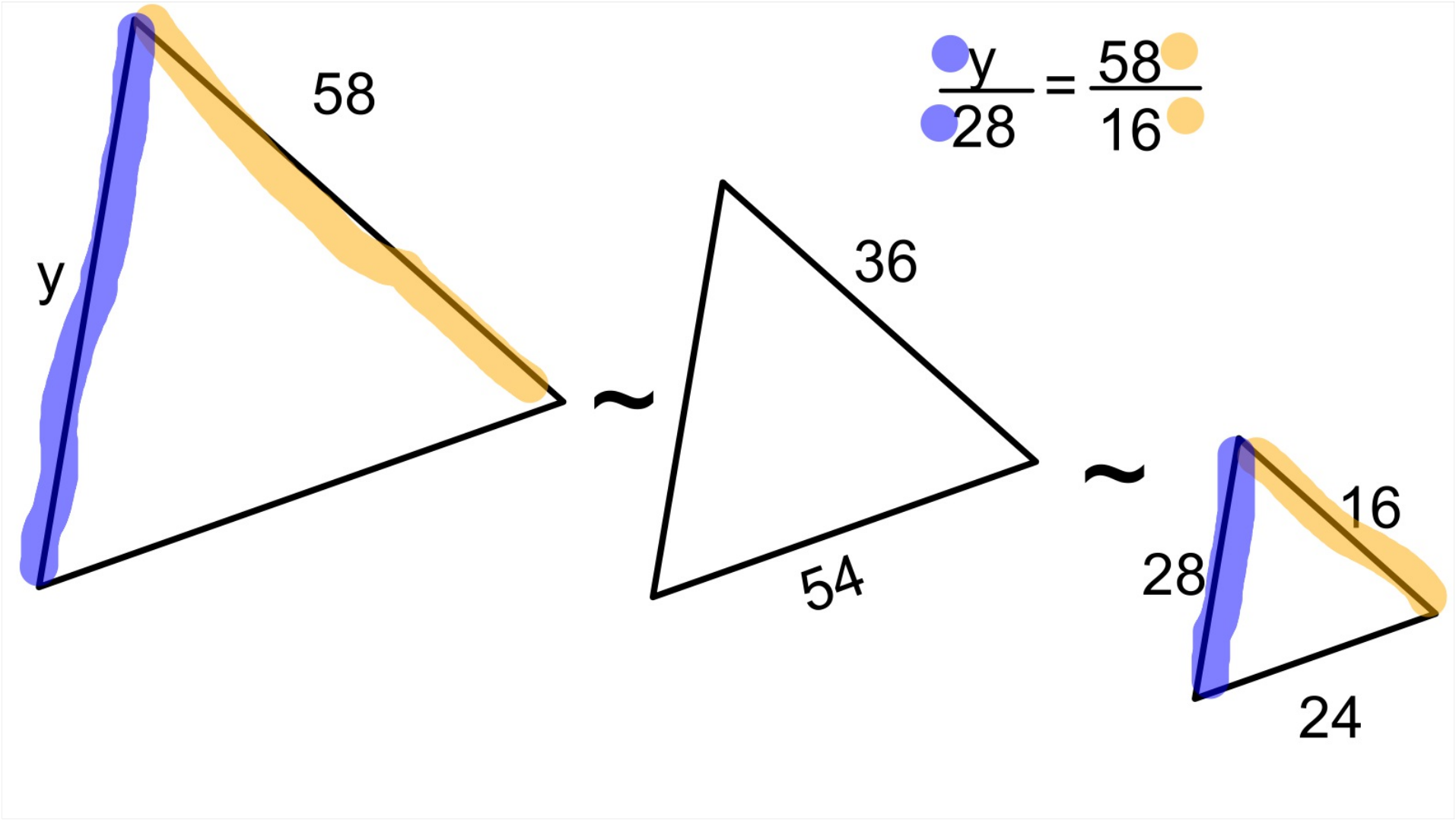
$$\frac{36}{22} = \frac{54}{x}$$

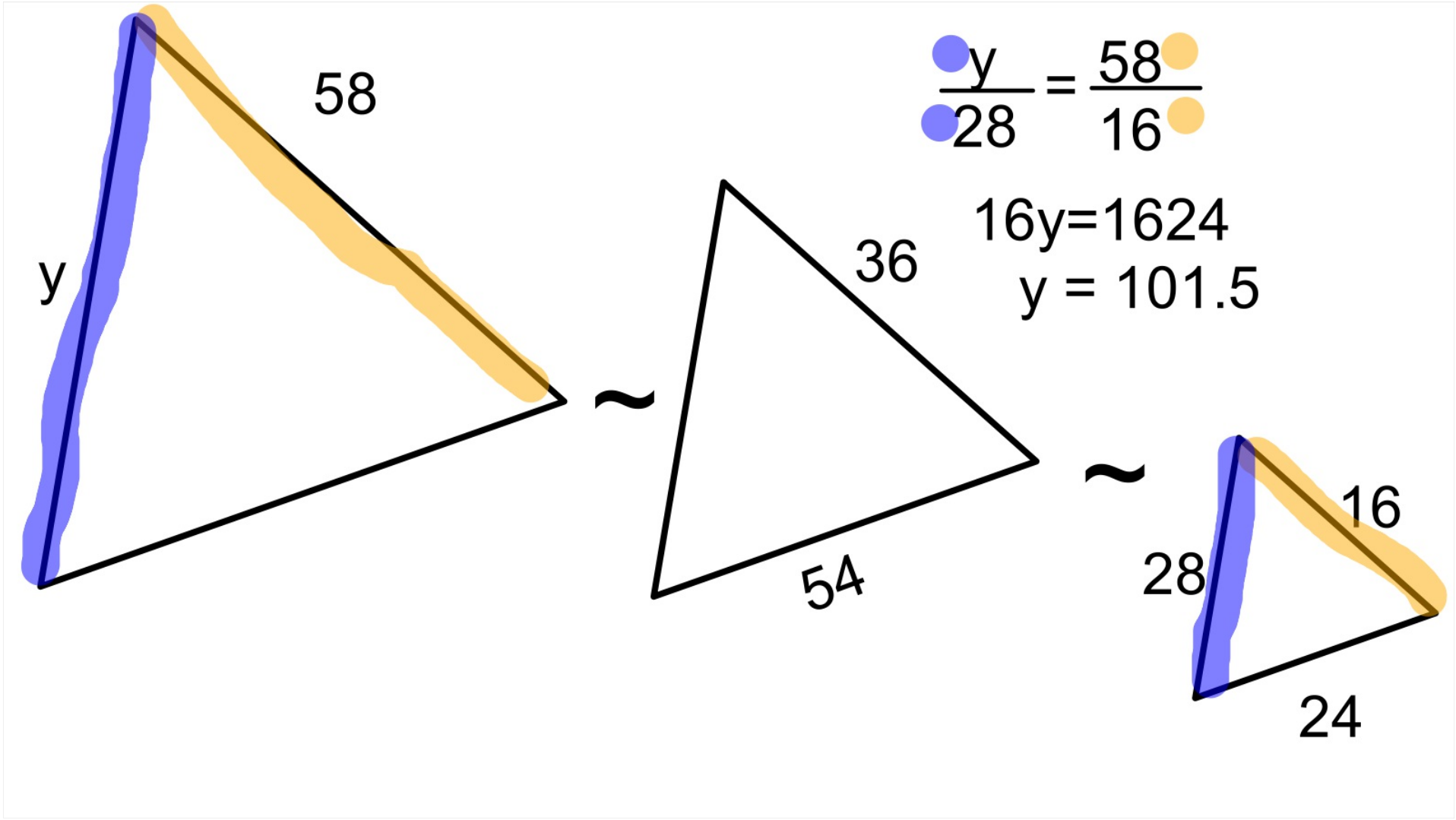
$$36x = 1188$$

$$x = 33$$


58
y
~
36 (not 20!!!)
54 (not 30!!)
~
16
28
24


58
y
~
36
54
~
16
28
24


y
58
36
54
28
16
24
y/28 = 58/16


58
y
36
54
16
28
24
y/28 = 58/16
16y=1624
y = 101.5