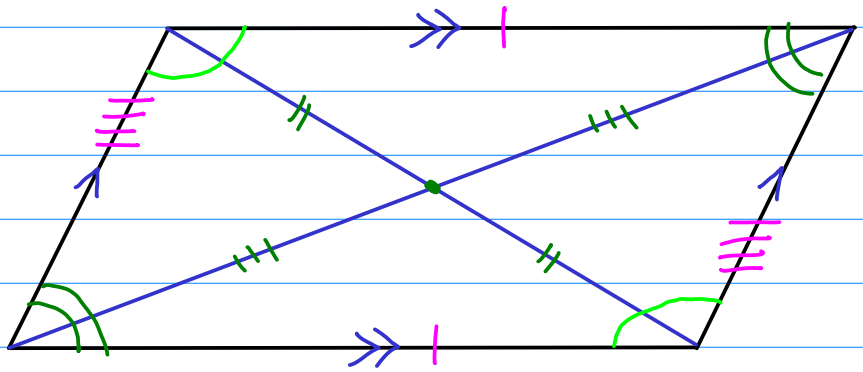
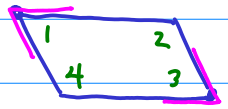
§5.5: Properties of ▱'s



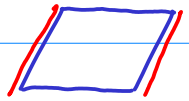
In ▱'s,

- diagonals bisect one another
- ∴ opposite ∠'s are ≅.
- opposite sides are ≅.
- consecutive ∠'s are supplementary (proof below)

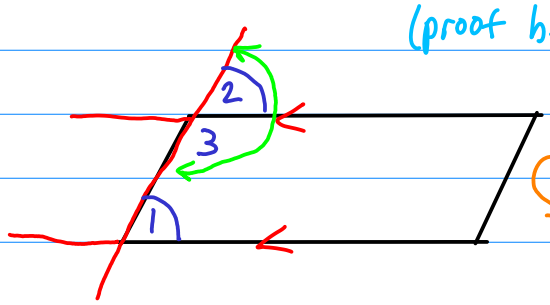
∠2 & ∠3 are consec. ∠'s



Opp. ∠'s



opp. sides



$m\angle 1 = m\angle 2$ (Corr ∠'s)

$m\angle 2 + m\angle 3 = 180°$ (Linear pair)

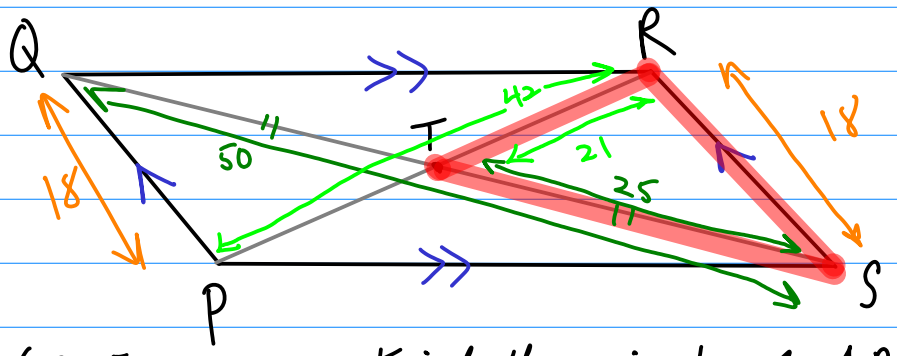
$m\angle 1 + m\angle 3 = 180°$ (substitution)

∴ ∠1 & ∠3 are supp. (defn of supp. ∠'s)

"therefore"

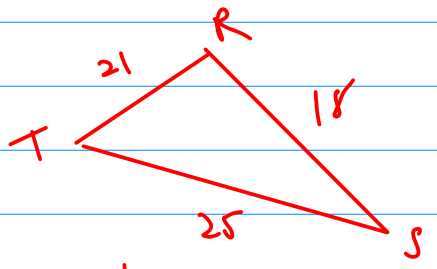
Consecutive ∠'s in a ▱ are supp.

Ex:



Given: $QS = 50$
$PR = 42$
$PQ = 18$

Find the perimeter of ΔRST.



64 u

1
21
25
18
64