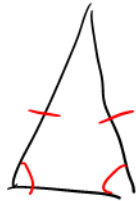


Plane Geometry

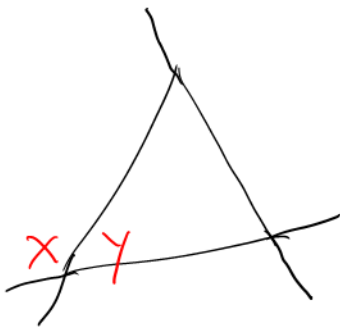
① Isosceles Triangle Theorem (ITT)

↳ the base angles of an isosceles triangle are equal.



② Angle Sum Triangle Theorem (ASTT)

→ the angles of a triangle add up to 180°



x is the exterior angle
y is the interior angle

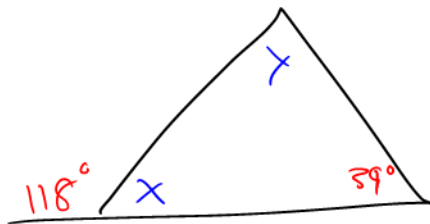
Pg 522.

1.



$$x = 180 - 72 - 47, \text{ ASTT}$$
$$x = 51^\circ$$

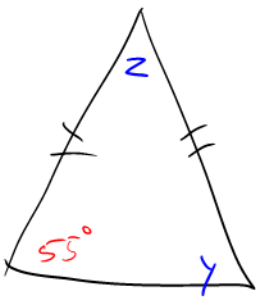
3.



$$x = 62^\circ, \text{ SAT}$$

$$y = 180 - 62 - 39, \text{ ASTT}$$
$$= 79^\circ$$

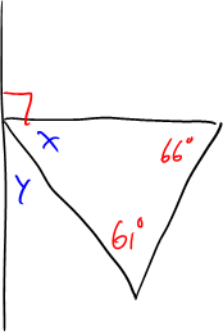
5.



$$y = 55^\circ, \text{ITT}$$

$$z = 180 - 55 - 55, \text{ASTT} \\ = 70^\circ$$

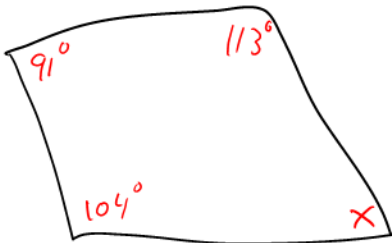
11.



$$x = 180 - 66 - 61, \text{ASTT} \\ = 53^\circ$$

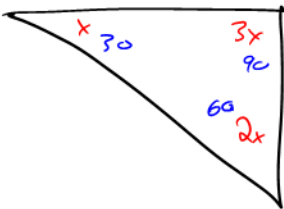
$$y = 37^\circ, \text{CAT}$$

13.



$$x = 360 - 113 - 91 - 104 \\ = 52^\circ$$

19 a)

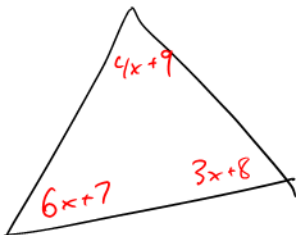


$$x + 3x + 2x = 180$$

$$\frac{6x}{6} = \frac{180}{6}$$

$$x = 30^\circ$$

c)



$$(4x+9) + (6x+7) + (3x+8) = 180$$

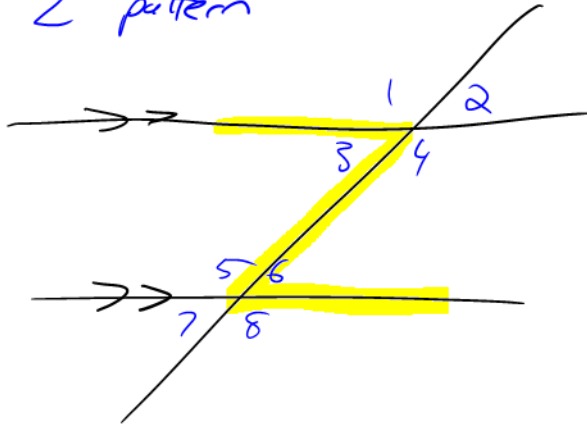
$$13x + 24 = 180$$

$$13x = 156$$

$$x = 12$$

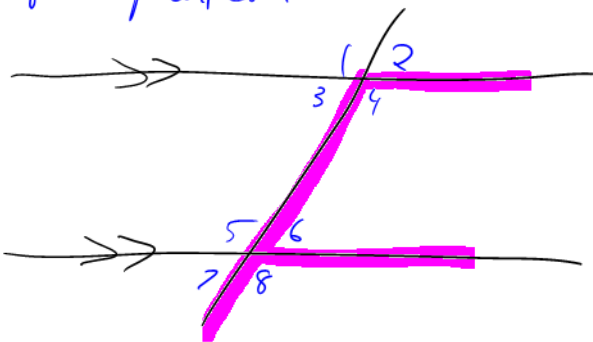
Parallel Line Theorems

① "Z" pattern



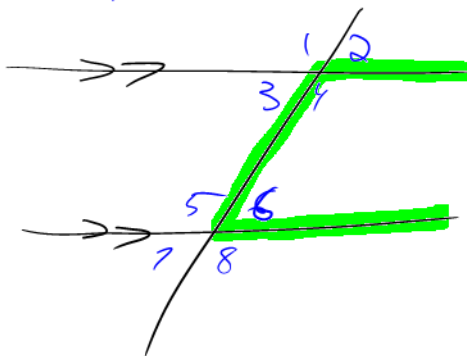
angle 3 = angle 6
 $\therefore$ angle 4 = angle 5

② "F" pattern



angle 4 = angle 8

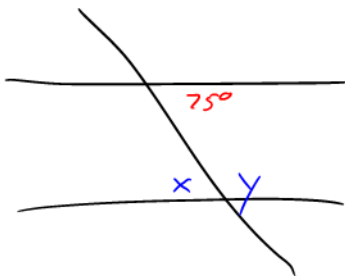
③ "C" pattern



angle 4 + angle 6 = 180°
 $\rightarrow$ co-interior angles

pg 535.

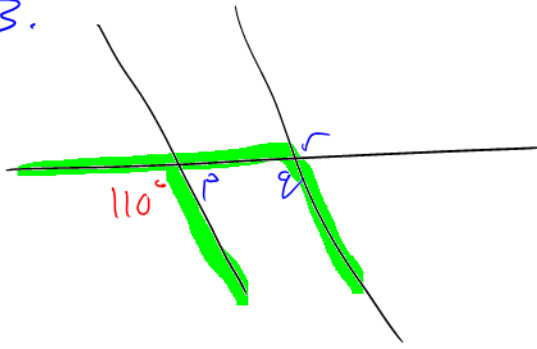
1.



$x = 75^\circ$, "Z" pattern.

$y = 180 - 75 = 105^\circ$, "C" pattern

3.

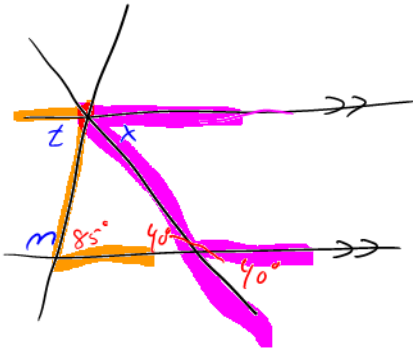


$p = 70^\circ$, "Z" pattern or SAT

$q = 110^\circ$, "F" pattern.

$r = 110^\circ$, OAT

9.



$x = 40^\circ$, "F" pattern

$t = 85^\circ$, "Z" pattern.

$m = 180 - 85^\circ$
 $= 95^\circ$, SAT

Homework. Well, technically we aren't checking it, so do some questions from pg 522 and some from pg 535.