

(18)

$$x - 40 + y = 180$$

$$x + 40 + x - 40 = 180$$

$$x + y = 220$$

$$2x = 180$$

$$x = 90$$

$$y = 130$$

(19)

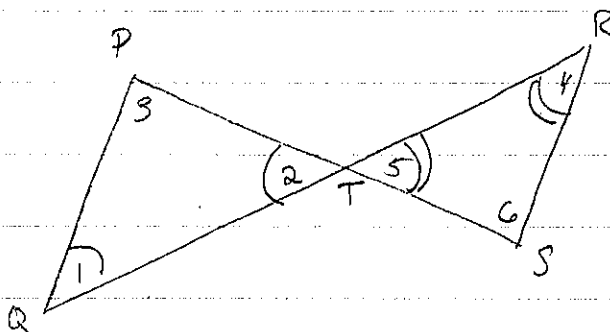
$$3x = 105$$

$$x = 35$$

(20)

$$\angle 1 \cong \angle 2$$

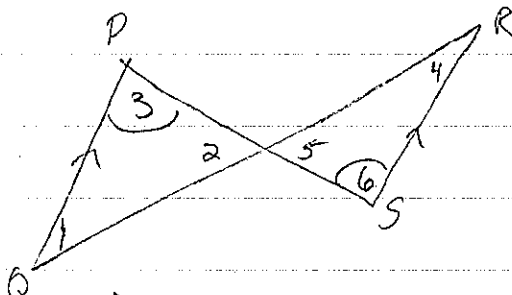
$$\angle 4 \cong \angle 5$$



$$\angle 1 \cong \angle 2 \quad \angle 2 \cong \angle 5 \quad \angle 5 \cong \angle 4 \rightarrow \angle 1 \cong \angle 4 \rightarrow \overline{PQ} \parallel \overline{RS}$$

(21)

$$\angle 3 \cong \angle 6$$

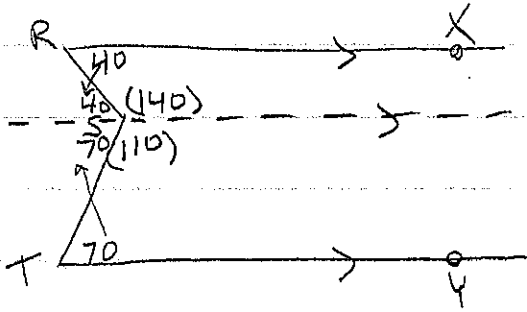


$$\angle 3 \cong \angle 6 \rightarrow \overline{PQ} \parallel \overline{RS} \text{ (alt. int.)}$$

$$\hookrightarrow \angle 1 \cong \angle 4$$

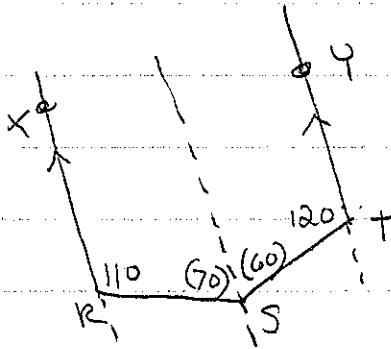
$$\nabla \angle 2 \cong \angle 5$$

(27)



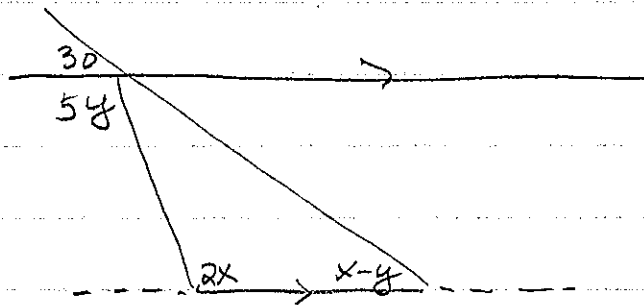
$$m\angle RST = 110$$

(28)



$$m\angle RST = 130$$

(29)



$$x - y = 30 \quad (\text{corr. } \angle)$$

$$2x = 5y \quad (\text{alt. int.})$$

$$\rightarrow x = 30 + y$$

$$2(30 + y) = 5y$$

$$60 + 2y = 5y$$

$$60 = 3y$$

$$\boxed{20 = y}$$

$$2x = 5(20)$$

$$2x = 100$$

$$\boxed{x = 50}$$

$$(31) \quad x^2 + 3x = 180$$

$$x^2 + 3x - 180 = 0$$

$$(x - 12)(x + 15) = 0$$

$$\boxed{x = 12} \quad x = -15$$