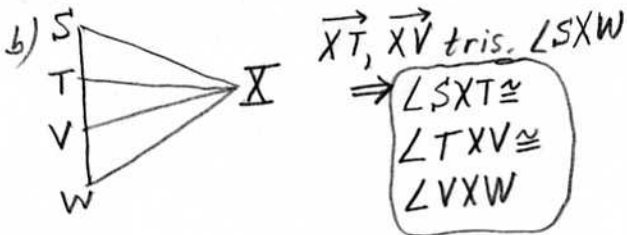
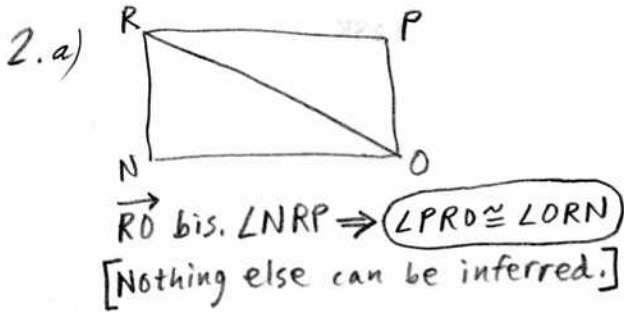
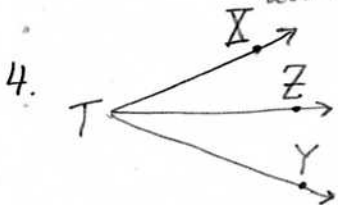


§1.5 #2, 4, 6, 11, 18, 20



[Note: $\overline{ST} \neq \overline{TV} \neq \overline{VW}$ if
 $TX = VX$, but even
 $TX = VX$ cannot be
assumed.]



Given: $\overrightarrow{TZ}$ bis. $\angle XTY$.

a) $\angle XTY = 60^\circ \Rightarrow \angle XTZ = \frac{1}{2}(60^\circ) = 30^\circ$

b) $\angle XTY = 48^\circ 50' \Rightarrow \angle XTZ = \frac{1}{2}(48^\circ 50') = 24^\circ 25'$

c) $\angle XTY = 36\frac{1}{2}^\circ \Rightarrow \angle XTZ = \frac{1}{2}(36\frac{1}{2}^\circ) = 18\frac{1}{4}^\circ$ or $18^\circ 15'$

d) $\angle XTY = 85^\circ 74' = 86^\circ 14' \Rightarrow \angle XTZ = \frac{1}{2}(86^\circ 14') = 43^\circ 07'$



Given: $OM = x + 8$
 $MP = 2x - 6$

$OP = 44$

$\therefore OP = OM + MP = (x + 8) + (2x - 6) = 44$

$3x + 2 = 44$

$3x = 42$

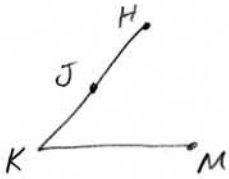
$$x = 14$$

$$\therefore OM = x + 8 = 14 + 8 = 22$$

$$MP = 2x - 6 = 2(14) - 6 = 22$$

Since $OM = MP$, M is the mdpt. of OP .

11.



Given: $\overline{KJ} \cong \overline{HJ}$

Prove: J is mdpt. of $\overline{HK}$

1. $\overline{KJ} \cong \overline{HJ}$

2. J is mdpt. of $\overline{HK}$

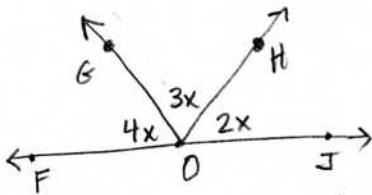
1. G

2. If a pt. is the mdpt. of a seg., it divides the seg. into 2 $\cong$ parts.

WRONG! Should say, "If a point divides a seg. into 2 $\cong$ parts, then it is the mdpt."

[This is the converse of a correct reason. The converse happens to be true in this case (since the def. of midpoint is biconditional), but that does not change the fact that the wrong reason was stated originally.]

18.



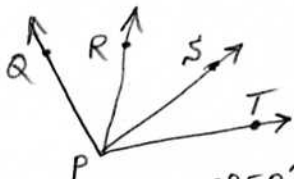
$$4x + 3x + 2x = 180 \text{ (since } \angle FDJ \text{ is straight)}$$

$$9x = 180$$

$$x = 20$$

$$m\angle FOG = 4x = 4(20) = 80$$

20.



Given: $\overrightarrow{PR}, \overrightarrow{PS}$ tris. $\angle QPT$

$$a) m\angle RPS = 23^\circ 50' \Rightarrow m\angle QPT = 3(23^\circ 50') = 69^\circ 150' = 69^\circ + 2\frac{1}{2}^\circ = 71^\circ 30'$$

$$b) m\angle QPT = 120^\circ 48' 30'' \Rightarrow m\angle QPS = \frac{2}{3}(120^\circ 48' 30'') = \frac{2}{3}(120^\circ) + \frac{2}{3}(48') + \frac{2}{3}(30'') = 80^\circ 32' 20''$$