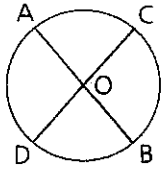


Problem Set A

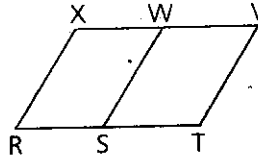
8/14

1 Name the congruent segments.

a O is the midpoint of \overline{CD} .

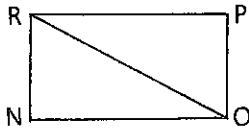


b \overline{SW} bisects \overline{XV} .

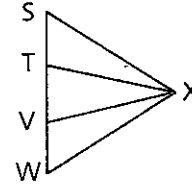


2 Name the congruent angles.

a \overrightarrow{RO} bisects $\angle NRP$.

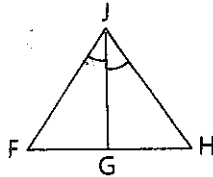


b \overrightarrow{XT} and \overrightarrow{XV} trisect $\angle SXW$.

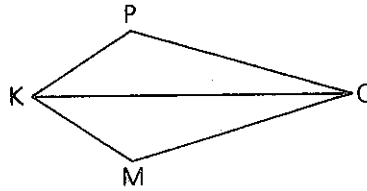


3 Name the angle bisector.

a

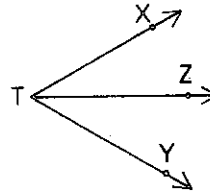


b $m\angle POK = m\angle MOK$



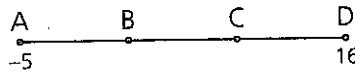
4 Find $\angle XTZ$ if \overrightarrow{TZ} bisects $\angle XTY$ and $\angle XTY$ equals

- a 60°
- b $48^\circ 50'$
- c $36\frac{1}{2}^\circ$
- d $85^\circ 74'$



5 B and C trisect \overline{AD} .

- a Find the coordinates of B and C.
- b Find AC.



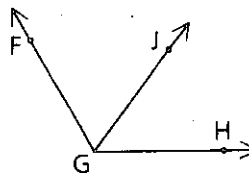
6 Given: $OM = x + 8$,
 $MP = 2x - 6$,
 $OP = 44$



Is M the midpoint of \overline{OP} ?

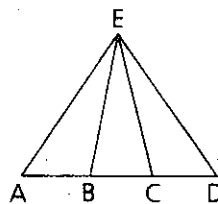
7 Given: $m\angle FGJ = 3x - 5$,
 $m\angle JGH = x + 27$;
 \overrightarrow{GJ} bisects $\angle FGH$.

Find: $m\angle FGJ$



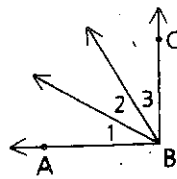
8 B and C are trisection points of \overline{AD} , and $AD = 12$.

- a Find AB.
- b Find AC.
- c If $AB = x + 3$, solve for x.
- d If $AB = x + 3$ and $AE = 3x + 6$, find AE.
- e What segment is C the midpoint of?
- f Do \overrightarrow{EB} and \overrightarrow{EC} trisect $\angle AED$?

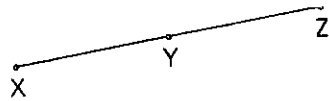


- 9 Given: $\angle ABC = 90^\circ$,
 $\angle 1 = (2x + 10)^\circ$,
 $\angle 2 = (x + 20)^\circ$,
 $\angle 3 = (3x)^\circ$

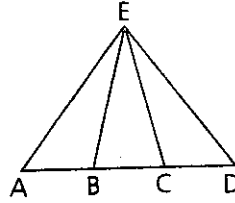
Has $\angle ABC$ been trisected?



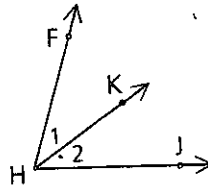
- 13 Given: $\overline{XY} \cong \overline{YZ}$
 Prove: Y is the midpoint of \overline{XZ} .



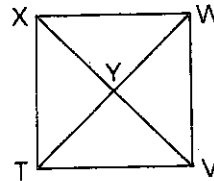
- 14 Given: $\angle AEB \cong \angle BEC \cong \angle CED$
 Conclusion: \overrightarrow{EB} and \overrightarrow{EC} trisect $\angle AED$.



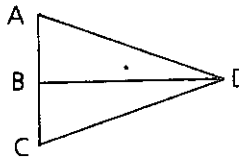
- 15 Given: $\angle 1 \cong \angle 2$
 Conclusion: \overrightarrow{HK} bisects $\angle FHJ$.



- 16 Given: $\angle TXW$ is a right angle.
 $\angle TYV$ is a right angle.
 Prove: $\angle TXW \cong \angle TYV$

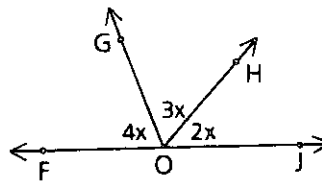


- 17 Given: B is the midpoint of \overline{AC} .
 Prove: $\overline{AB} \cong \overline{BC}$

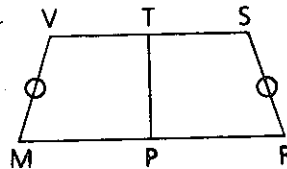


Problem Set B

- 18 \overrightarrow{OG} and \overrightarrow{OH} divide straight angle FOJ into three angles whose measures are in the ratio 4:3:2. Find $m\angle FOG$.

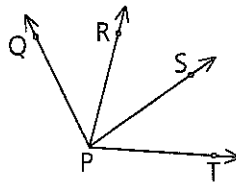


- 19 Given: \overleftrightarrow{TP} bisects \overline{VS} and \overline{MR} :
 $\overline{VM} \cong \overline{SR}$,
 $MP = 9$, $VT = 6$,
 perimeter of $MRSV = 62$
 Find: VM



- 20 \overrightarrow{PR} and \overrightarrow{PS} trisect $\angle QPT$.

- a If $m\angle RPS = 23^\circ 50'$,
 find $m\angle QPT$.
 b If $m\angle QPT = 120^\circ 48' 30''$,
 find $m\angle QPS$.



- 24 The measures of two angles are in the ratio 5:3. The measure of the larger angle is 30 greater than half the difference of the angles. Find the measure of each angle.