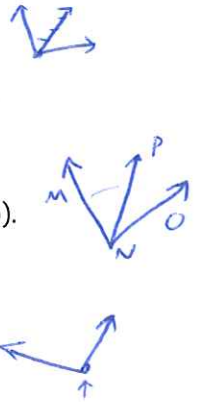


Chapter 1- Foundations of Geometry

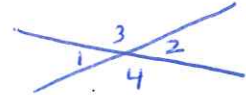
#1-6, Vocabulary: Fill in the blank with the correct Geometry term

- Two angles which share a ray, but no common interior points are adjacent.
- Complementary angles sum to 90° .
- If \overline{NP} bisects $\angle MNO$, then $m\angle MNP = m\angle PNO$ (a sketch may help).
- Opposite rays and a straight angle are synonyms for a line.
- The common endpoint of the sides of an angle is the vertex.
- Points that line in the same plane are termed coplanar.



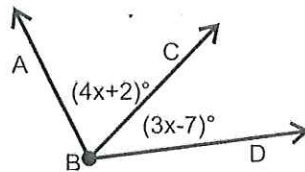
#7-10, Make a sketch with the following information in order to answer the True/False questions.

Vertical angles: $\angle 1$ & $\angle 2$. Linear Pairs: $\angle 1$ & $\angle 3$ and $\angle 1$ & $\angle 4$



- If $m\angle 3 = 30^\circ$, then $m\angle 4 = 150^\circ$ False
- If $m\angle 1 = 45^\circ$, then $m\angle 4 = 135^\circ$ True
- It will always be true that $m\angle 3 = m\angle 4$ True
- It will always be true that $\angle 1 + \angle 2 = \angle 3 + \angle 4$ False

11. Solve for x if $m\angle ABD = 130^\circ$

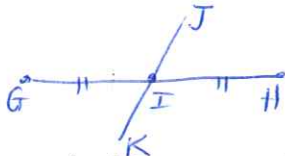


$$7x - 5 = 130$$

$$7x = 135$$

$$x = 19.23$$

12. \overline{JK} bisects \overline{GH} at I. If $GI = 13x - 14$ and $HI = 2x + 42$, find the length of GH (A sketch may help).



$$13x - 14 = 2x + 42$$

$$11x = 56$$

$$x = 5.09$$

$$(52.18)2$$

$$104.36 = GH$$

#13-16, Use the following coordinates: J(3,-4) K(10,6) L(0,-3) M(-2,2)

13. Find the midpoint of \overline{JK}

J(3, -4)
K(10, 6)

Midpoint: $(6.5, 1)$

14. Determine the distance from K to L.

$10^2 + 9^2 = c^2$
 $181 = c^2$

Distance: 13.45 or $\sqrt{(10-0)^2 + (6+3)^2}$

15. M is the midpoint of L and N. Find the coordinates of Point N.

L(0, -3)
M(-2, 2)

N(-4, 7)

16. Find the length of \overline{KM}

K(10, 6) M(-2, 2)

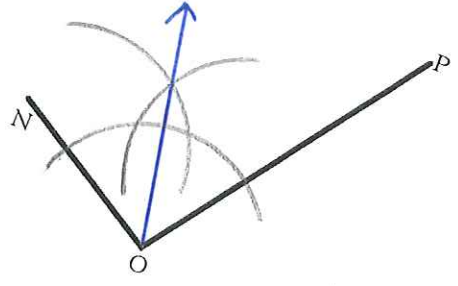
Distance: 12.65

horizontal change: 12
vertical change: 4
 $12^2 + 4^2 = c^2$
 $160 = c^2$

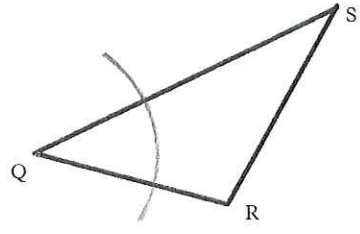
Chapter 2- Geometric Reasoning (Constructions and Proofs)

#1-5, Use a compass and a straight edge to construct each of the following.

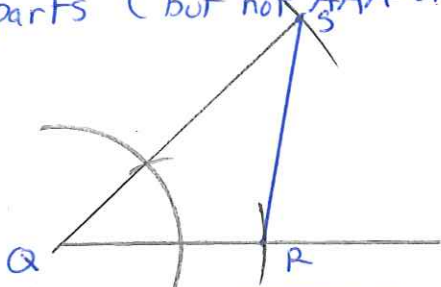
1. Bisect $\angle NOP$



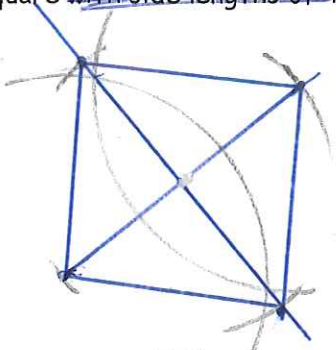
2. Construct a triangle congruent to $\triangle QRS$



copy 3 parts (but not AAA or ASS)

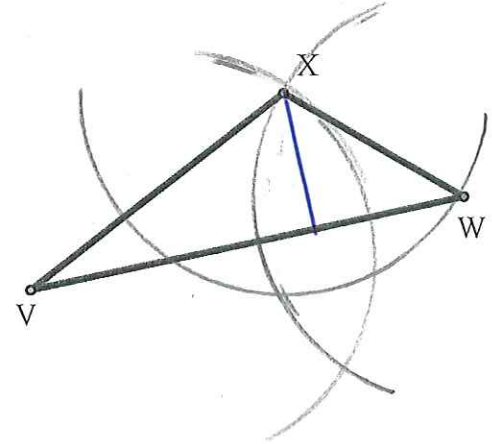


3. Construct a square with side lengths of TU.

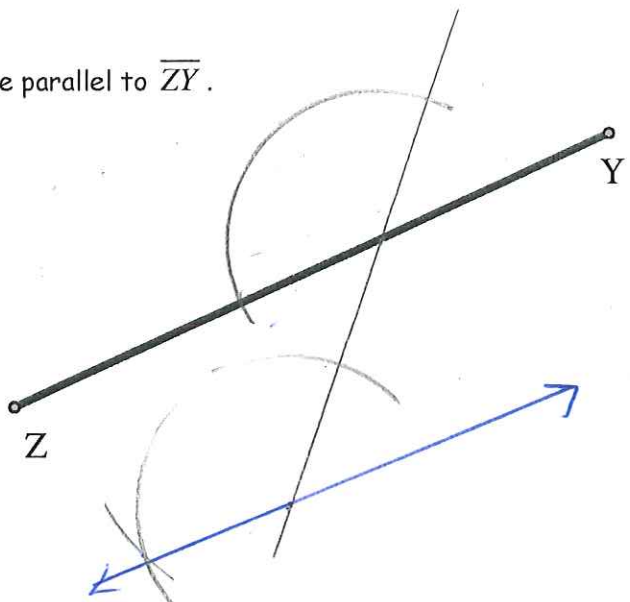


one method!
Start with 90°
& make = sides

4. Construct the altitude of \overline{VW} in $\triangle VWX$.



5. Construct a line parallel to \overline{ZY} .

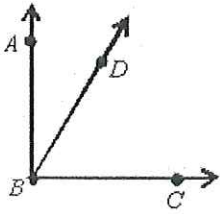


one method!
copied angles
in corresponding
positions

6. Fill in the missing statements and reasons in the proof below.

Given: $\angle ABD$ and $\angle DBC$ are complementary.

Prove: $\angle ABC$ is a right angle.

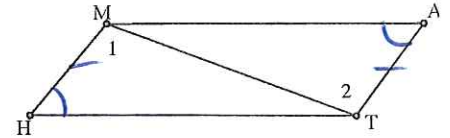


Statements	Reasons
1 $\angle ABD$ and $\angle DBC$ are complementary.	Given
2 $m\angle ABD + m\angle DBC = 90^\circ$	def. complement
3 $\angle ABD + \angle DBC = \angle ABC$	Angle Addition Postulate
4 $90^\circ = m\angle ABC$	Sub(2,3) or Transitive
5 $\angle ABC$ is right	Definition of right angle

7. Write a proof:

Given: $MATH$ is a parallelogram

Prove: $\triangle MHT = \triangle TAH$

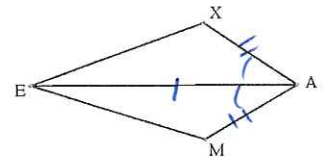


Statements	Reasons
1. $\square MATH$	1. Given
2. $MH = AT$	2. opp. sides =
3. $\angle H = \angle A$	3. opp. angles =
4. $HT = MA$	4. opp. sides =
5. $\triangle MHT = \triangle TAH$	5. SAS

8. Write a proof:

Given: \overline{EA} bisects $\angle XAM$
 $XA = AM$

Prove: $EX \cong EM$



Statements	Reasons
1. \overline{EA} bisects $\angle XAM$	1. G
2. $XA = MA$	2. G
3. $\angle XAE = \angle MAE$	3. def bisect
4. $EA = EA$	4. reflexive
5. $\triangle XAE = \triangle MAE$	5. SAS
6. $EX = EM$	6. CPCTC