Name_____ Date_____

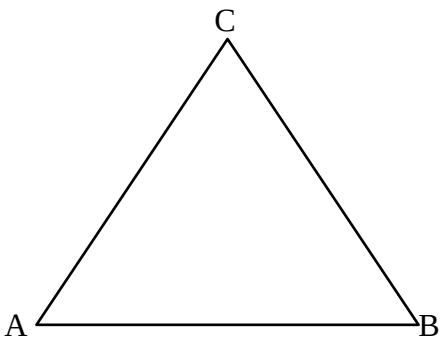
Constructions Review

Constructions to Know

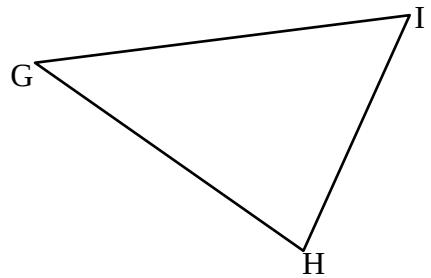
1) Duplicating a segment
2) Adding and Subtracting segments
3) Duplicating an angle
4) Adding Angles
5) Equilateral Triangle
6) 60° Angle
7) Isosceles Triangle
8) Duplicate Triangle
9) Rhombus (and Kite)
10) Perpendicular Bisector
11) Half of a Segment
12) Median of a Triangle
13) Perpendicular from a Point off a Line
14) Perpendicular from a Point on a Line
15) Altitude of a Triangle
16) Angle Bisector
17) 90° Angle
18) 30° Angle (150° Angle)
19) 45° Angle (135° Angle)
20) 22.5° Angle
21) 105° Angle (75° Angle)
22) 120° Angle
23) Parallel Line through a Given Point (2 ways)
24) Square
25) Circumcenter
26) Incenter
27) Orthocenter
28) Centroid

Perform the following constructions.

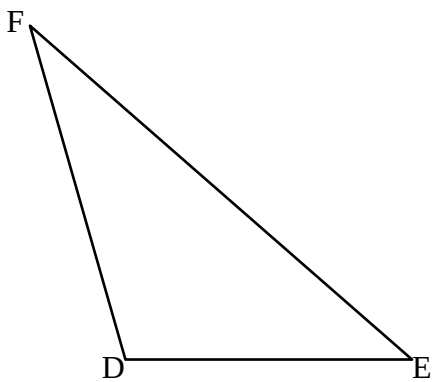
1) Construct the angle bisector $\overline{AD}$ in ΔABC.



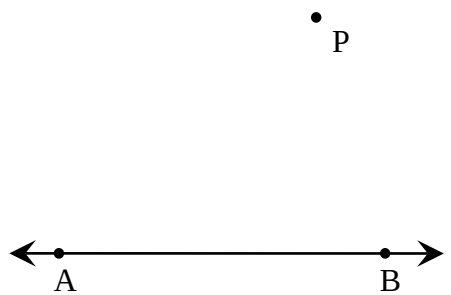
2) Construct the altitude $\overline{IJ}$ in ΔGHI.



3) Construct the median $\overline{MF}$ in $\triangle DEF$ where M is the midpoint of $\overline{DE}$.

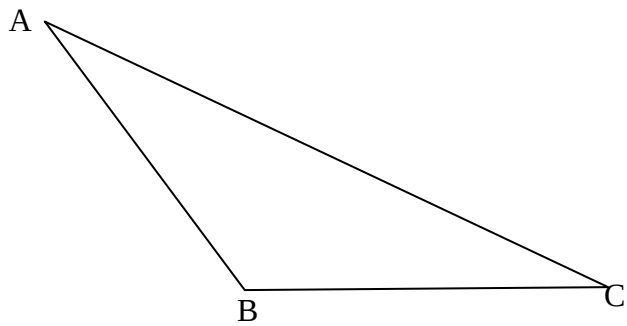


4) Construct a line $\overleftrightarrow{PT}$ parallel to $\overleftrightarrow{AB}$ through point P.

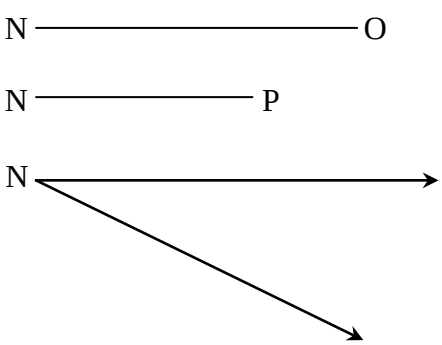


5) Construct an angle of 75^{o}.

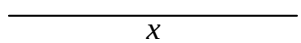
6) Construct the altitude from vertex A.

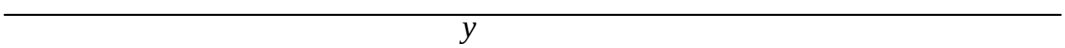


8) Construct $\triangle NOP$ given the segments and the angle below:



9) Given the following, construct a $\triangle CAT$ with length y as the perimeter and x the length of the base.





10) Construct a kite.

11) Construct an isosceles trapezoid.

12) Construct segment *EF* with $EF = \frac{1}{2}(AB + CD)$.

A ——————— B

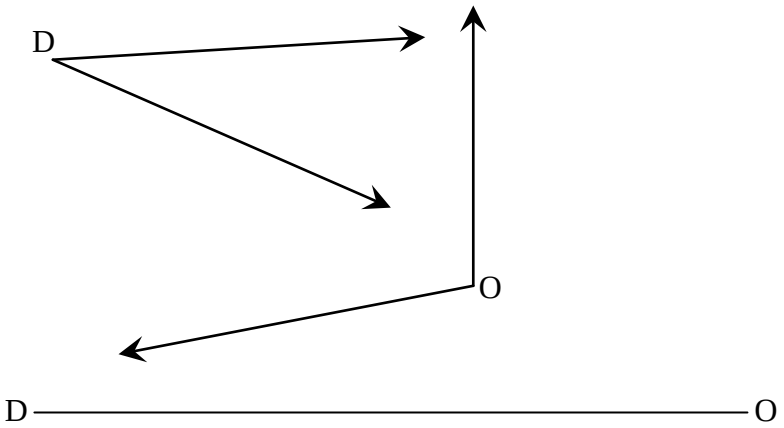
C ——————— D

13) Given $\overline{QR}$ and $\angle Q$, construct a rhombus QRST with sides with length of $\frac{1}{2}QR$.

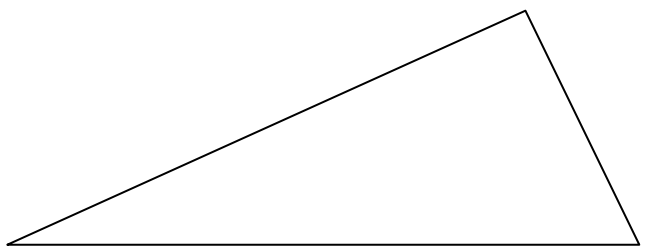
Q ——————————————————————— R

Q

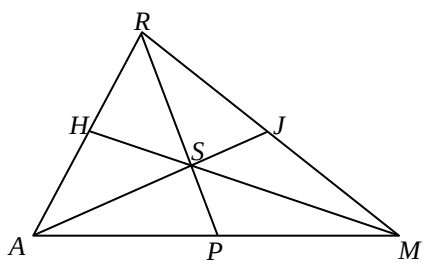
14) Construct $\triangle DOG$



15) Construct the circumscribed circle



16) S is the centroid. Find the missing lengths.



HM = 10 RS = 8 JS = 2

SP =_____ AS =_____

SM =_____

17) Menlo-Atherton High School wants to locate the new drinking fountain equally distant from three doors to the classrooms in the new Technology Wing. What point of concurrency does the plumber need to locate?