

# MTH 202 - Quiz 3

25 September 2015

Name: \_\_\_\_\_

No calculators or other electronic devices are allowed on this quiz. If you need more space to solve a problem, use the back of the paper.

1. (2+2+1=5 points) (a) Draw a figure with exactly 4 lines of symmetry.

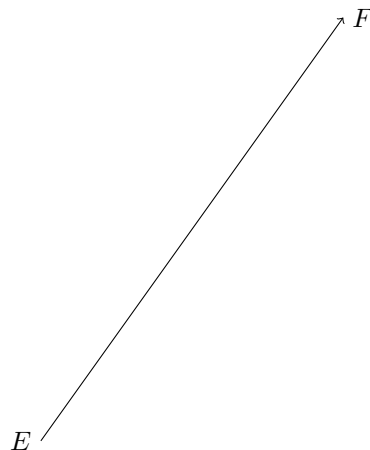
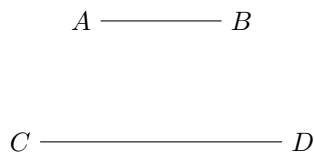
(b) Draw a figure with rotational symmetry of order 5.

(c) Draw a parallelogram which is not a rhombus.

2. (10 points) You are given two segments ( $\overline{AB}$  and  $\overline{CD}$ ) and a ray ( $\overrightarrow{EF}$ ). Use a compass and straightedge to draw an isosceles triangle so that:

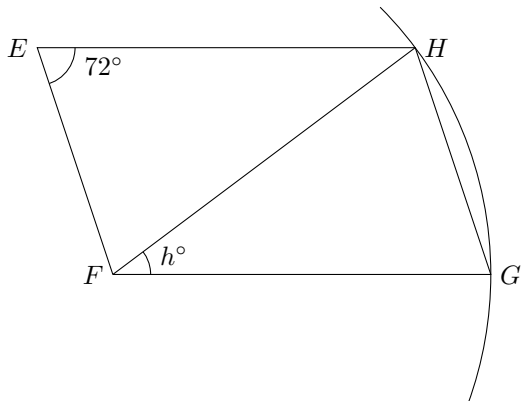
- (1) the base lies on the ray  $\overrightarrow{EF}$ ,
- (2) the base has length  $AB$ , and
- (3) the other two sides have length  $CD$ .

Clearly indicate each step used in the construction.



3. (5+5=10 points) Give complete Teacher's Solutions to the following problems, justifying all steps and carefully organizing your solution.

- (a) You are given that  $EFGH$  is a parallelogram, and that  $G$  and  $H$  lie on a circle with center  $O$  (only part of the circle is shown). Find  $h$ .



- (b) Set up an equation for  $x$ , and solve it. Include a full Teacher's Solution: That is, justify each step in your work.

