

Quiz two , Math 330, Fall 2014

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QUESTION 1. (i) State 4 properties of the symmetry-group on regular n -gon.

(ii) Let S be the set of all symmetries on regular 12-gon. How many elements does S have?

(iii) Can we tile the floor using regular 12-gon pieces and regular 3-gon pieces? Explain . If yes, then how many pieces from each can we use around a point c on the floor?

(iv) Can we tile the floor using regular 12-gon pieces and regular 4-gon pieces? Explain . If yes, then how many pieces from each can we use around a point c on the floor?

(v) Can we tile the floor using regular 12-gon pieces, regular 3-gon pieces and regular 4-pieces? Explain . If yes, then how many pieces from each can we use around a point c on the floor?

(vi) Let D be the set of all symmetries on regular 4-gon (see the diagram on the white board)

a. Find $R_2 \circ V$

b. Find $D_1 \circ H$

c. Find $H \circ V$

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