MATH 106
QUIZ 3 Name Key

Answer all questions. Point values are indicated. Good luck.

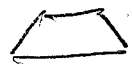
1. (6 points) Provide the following information:

   a. A regular octagon has 8 lines of reflection symmetry and 8 rotational symmetries.

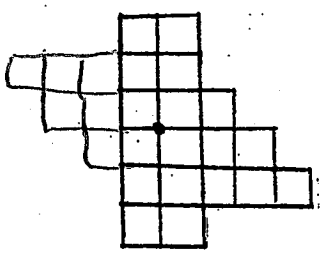
   b. The figure shown has 5 lines of reflection symmetry and 5 rotational symmetries.

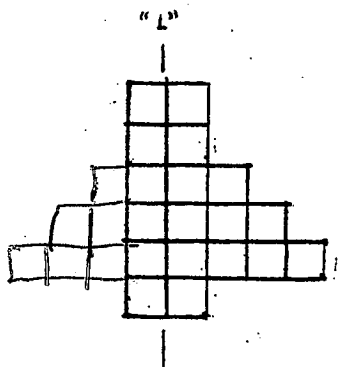
   

   c. An isosceles trapezoid (that is not a rectangle) has 1 lines of reflection symmetry and 0 rotational symmetries.

2. (4 points) Add six small squares to the following drawings so that the first drawing has 180° rotational symmetry with respect to the point indicated, and so that the line "L" represents a line of reflection symmetry for the second.





3. (1 point) How many planes of refection symmetry does a right prism have if its bases are regular hexagons?

   a. five
   b. six
   c. seven
   d. ten
   e. twelve

6 thru bases
+ 1 thru lateral faces

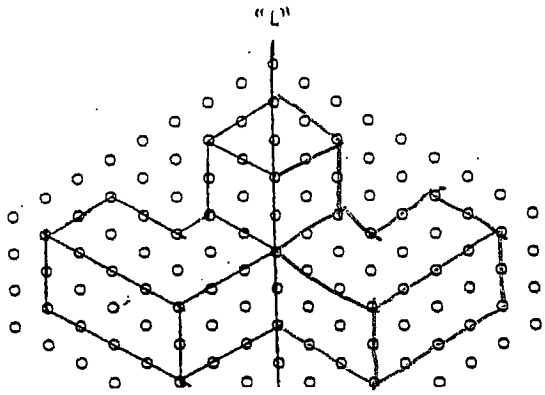
4. (1 point) How many rotational symmetries does a right prism have if its bases are regular pentagons? (Include all axes of symmetry.)

   a. five
   b. six
   c. ten
   d. twelve
   e. fifteen

5 + 5(2)
bases lateral faces

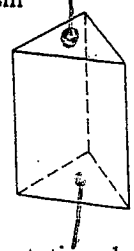
5. (3 points) A regular *decagonal* pyramid has 10 planes of refection symmetry, 1 axes of rotational symmetry, and 10 rotational symmetries.

6. (2 points) If line "L" represents a plane of reflection symmetry, complete the isometric drawing of the shape so it has reflection symmetry.



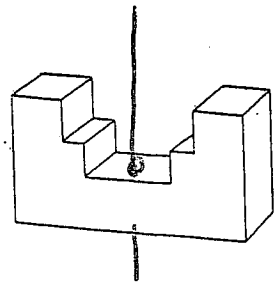
7. (2 points) Sketch an axis of symmetry of rotational symmetry for each figure and determine the number of rotational symmetries about the axis drawn.

a. Equilateral triangular prism



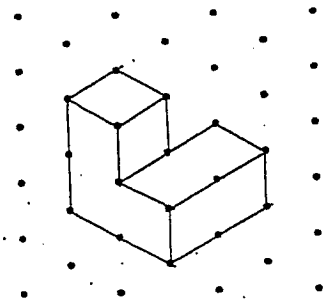
3 rotational symmetries

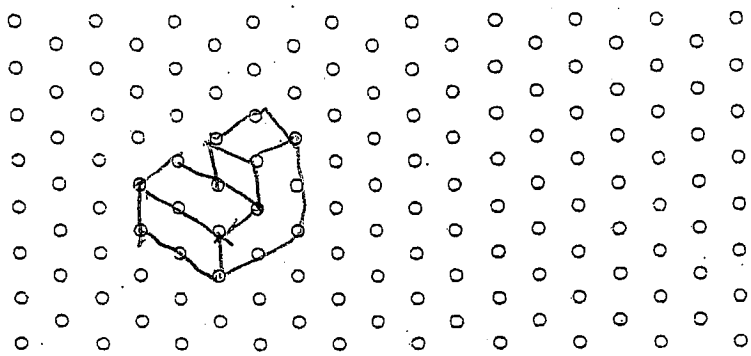
b.



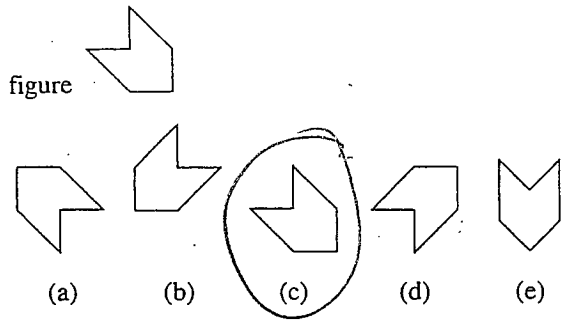
2 rotational symmetries

8. (2 points) On the dot paper below, draw the isometric representation congruent to the shape shown using a reflection.

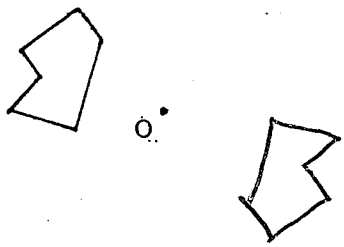




9. (1 point) Which of the following would be the image of the figure transformed by a ***translation?***



10. (2 points) Draw the image of the figure rotated 180° clockwise around point O.



11. (2 points) Draw the reflection of the figure across line R.