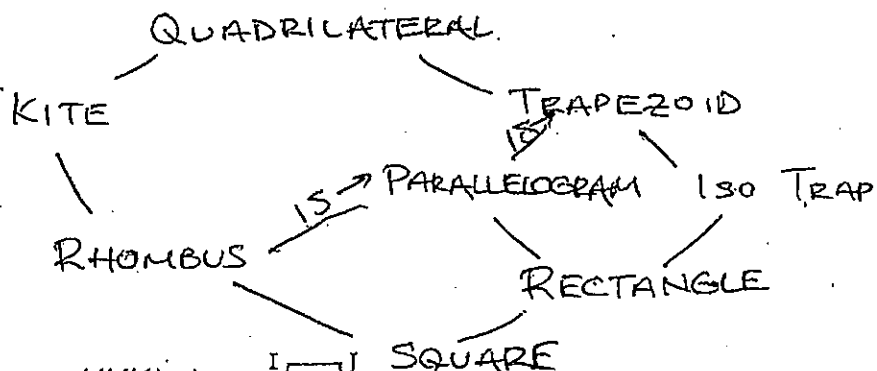
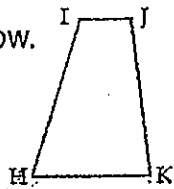


Unit E Exam Review

1. Draw the quadrilateral hierarchy.



2. Consider the polygon *HIJK* below.



a. Name a pair of consecutive sides.

2a. \overline{HI} & \overline{IJ}

b. **True or False.** *H* and *K* are consecutive vertices.

b. TRUE

c. Name the diagonals from vertex *I*.

c. \overline{KI} & \overline{HJ}

3. The measures of the angles of a triangle are in the extended ratio 2:3:10. Find the measure of the largest angle.

3. 120°

$$2x + 3x + 10x = 180$$

$$\frac{15x = 180}{15} \quad \boxed{x = 12}$$

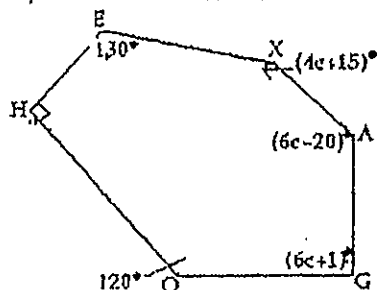
4. In *HEXAGO* below, find *c* and $m\angle G$.

4. $c = 24$

$$(n-2) \cdot 180$$

$$(6-2) \cdot 180$$

$$720^\circ$$



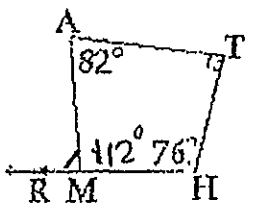
$\angle G = 145^\circ$

$$90 + 130 + 4c + 15 + 6c - 20 + 6c + 1 + 120 = 720$$

$$16c + 336 = 720 \rightarrow \frac{16c}{16} = \frac{384}{16}$$

5. Refer to the quadrilateral *MATH*. Find $m\angle AMR$.

5. 68°



$$360 - 90 - 82 - 76 = 112^\circ$$

$$180 - 112$$

6. Find the sum of the measures of the angles in a convex 14-gon.

6. 2160°

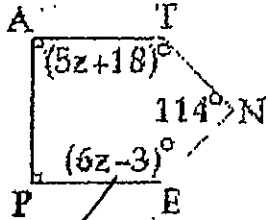
$$(n-2) \cdot 180$$

$$(14-2) \cdot 180$$

7. In *PENTA* below, find z and $m\angle E$.

7. $z = 21$ $\angle E = 123^\circ$

$(5-2) \cdot 180$
540°



$$90 + 90 + 5z + 18 + 114 + 6z - 3 = 540$$

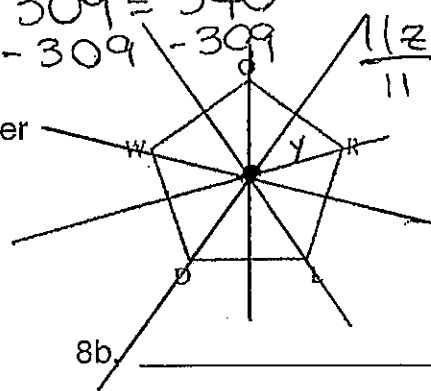
$$11z + 309 = 540$$

$$\begin{array}{r} 11z + 309 = 540 \\ -309 \quad -309 \\ \hline 11z = 231 \end{array}$$

$$\frac{11z = 231}{11 \quad 11}$$

$z = 21$

8. a. Draw the symmetry line(s) of the regular pentagon *WORLD* below. Locate the center of symmetry and label it as point Y.



b. Regular pentagon *WORLD* has 5-fold rotational symmetry.

8b. _____

9. ~~even~~ **True or False.** Each symmetry line of a regular hexagon is the perpendicular bisector of a side of the hexagon.

9. ~~TRUE~~ FALSE

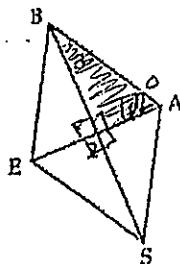
10. In the figure, *BASE* is a rhombus with $m\angle 1 = 62$.

a. Find $m\angle 3$.

10a. 28°

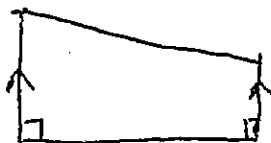
b. Find $m\angle 2$.

b. 90°



$$180 - 90 - 62$$

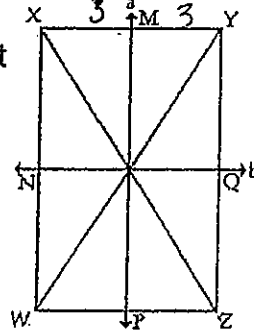
11. a. In the space below draw a quadrilateral that has only two right angles, but no congruent sides.



b. What is the name of the quadrilateral you drew? Be as specific as possible.

11b. TRAPEZOID

12. In the figure below, a and b are symmetry lines for rectangle $XYZW$.



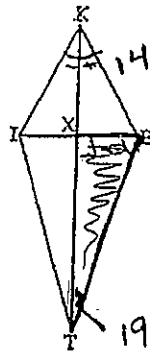
- a. If $XZ = 27$, which other segment is also 27?
- b. If $XM = 3$, find WZ .
- c. $XYZW$ has _____-fold rotational symmetry.

12a. WY

b. 6

c. 2

13. Given kite, $KITE$, with ends K and T . If $m\angle ETX = 19$, $m\angle EKT = 40$, and $EK = 14$, find:



- a. IK .
- b. $m\angle EXT$.
- c. $m\angle XET$.
- d. $m\angle EKI$.

$180 - 90 - 19$

13a. 14

b. 90°

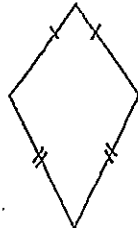
c. 71°

d. 80°

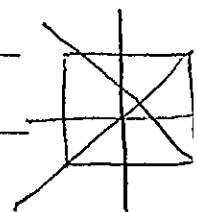
14. True or False. Each symmetry line of a square is the perpendicular bisector of a side of the square.

14. FALSE

15. Name the quadrilateral below. Be as specific as possible.



15. KITE



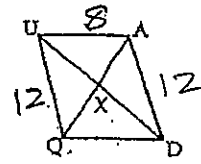
16. True or False. Every rhombus is a trapezoid.

16. TRUE

17. True or False. Every quadrilateral is a parallelogram.

17. FALSE

18. Refer to the parallelogram $QUAD$ below. If $QU = 12$, $UA = 8$, and $XU = 9$, find as many other lengths as you can.



$\overline{QD} = 8$ $\overline{AD} = 12$ $\overline{XD} = 9$ $\overline{DU} = 18$