Lesson 2 Assignment

Side Lengths and Diagonal Properties of Polygons – Part A

Work slowly and carefully. If you are having difficulty, go back and review the appropriate *Lesson*.

For full marks, show all calculations, steps, and/or explain your answers.

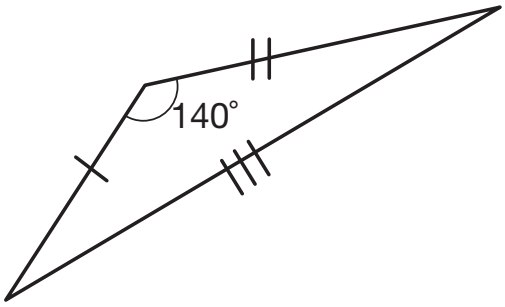
Total: 27 marks.

Match each triangle with its classification with regard to **both** angle and side lengths. Classification can be used more than once.

Angle Classification:	**Side Length Classification:**
A. Right Triangle B. Acute Triangle C. Obtuse Triangle	D. Equilateral Triangle E. Isosceles Triangle F. Scalene Triangle

(1) 1. _____

_____



(1) 2. _____

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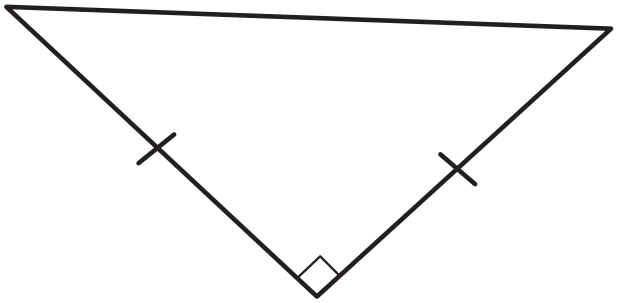

(1) 3. _____

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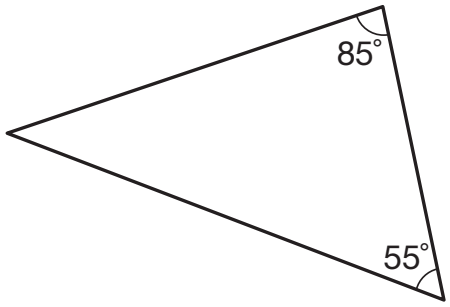
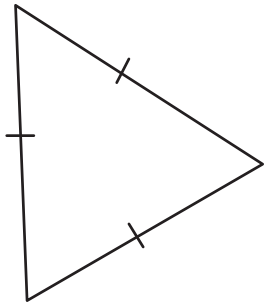


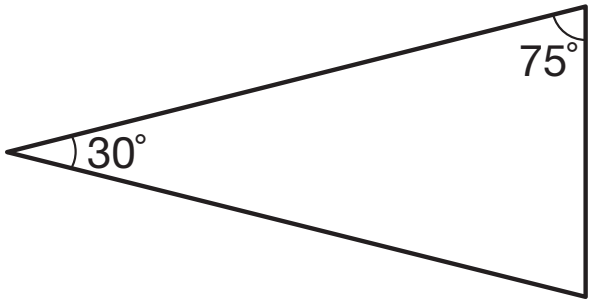
(1) 4. _____

_____

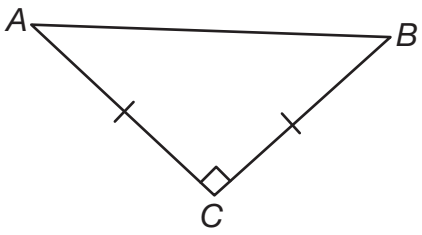


(1) 5. _____

_____

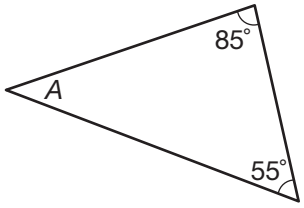


(2) 6. Determine $\angle A$ and $\angle B$. Show all work.



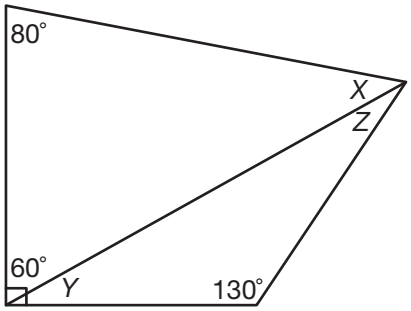
(2)

7. Find $\angle A$. Show all work.



(3)

8. Find the missing angles in the diagram below.



Side Lengths and Diagonal Properties of Polygons – Part B

For questions 9 to 12, choose the letter of your answer and write it on the line provided.

(1) _____ 9. Name the quadrilateral that has

- two pairs of parallel sides
- adjacent sides not equal in length
- interior angles not equal to 90°

A. Square
B. Rectangle
C. Rhombus
D. Parallelogram

(1) _____ 10. Name the quadrilateral that has

- one pair of parallel sides
- two sides equal in length

A. Parallelogram
B. Isosceles trapezoid
C. Rectangle
D. Kite

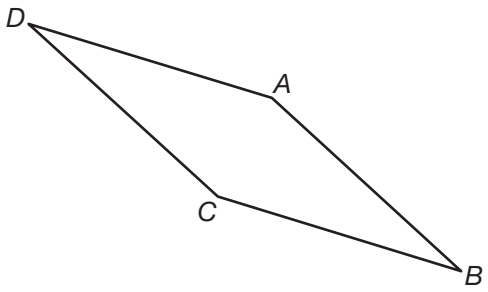
(1) _____ 11. Name the quadrilaterals that fit under the description "All interior angles are 90°."

A. Squares only
B. Rectangles only
C. Squares and rectangles
D. None of the above

(1) _____ 12. Name the quadrilaterals that fit the description "Diagonals are of equal length."

A. Squares only
B. Rectangles only
C. Isosceles trapezoids only
D. Squares, rectangles, and isosceles trapezoids

13. Use the parallelogram to answer the following.



(1) a. Name one pair of parallel sides.

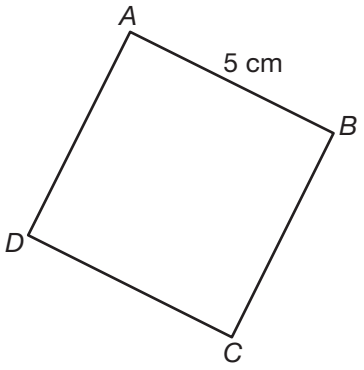
(1) b. Name one pair of equal angles.

14. Do the diagonals in the following polygons always form a 90° angle?

(1) a. rectangle

(1) b. rhombus

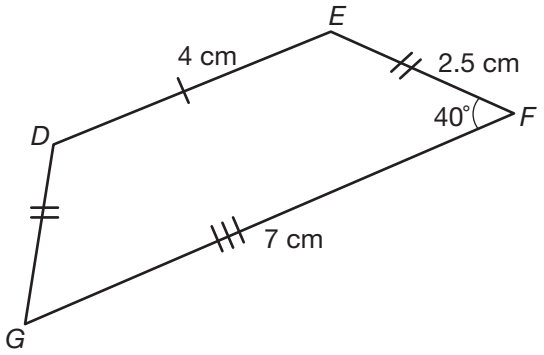
15. Given the square, find the following.



(1) a. $\angle B$

(1) b. Length of line segment AD

16. Given the isosceles trapezoid, find the following.

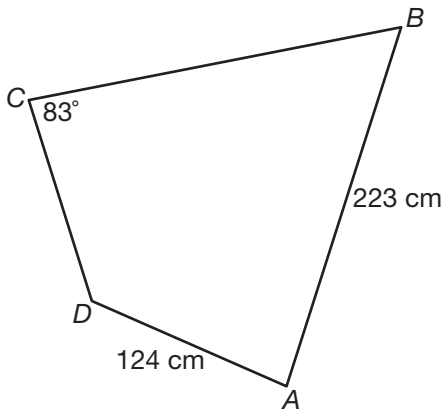


(1) a. $\angle D$

(1) b. $\angle G$

(1) c. Length of line segment DG

17. Given the diagram of the kite, answer the following.



(1) a. Name a missing angle from kite $ABCD$ and find its angle measure.

(1) b. State the length of line segment CD.