GEOMETRY 7: QUADRILATERALS

1. Complete the following statements:

   a. The sum of the interior angles of any quadrilateral is _____ .

   b. The opposite sides of any parallelogram are both _____ and _____ .

   c. Each interior angle of a rectangle measures _____ .

   d. The four sides of a square are _____ and the opposite sides are _____ .

   e. The diagonals of a _____ are always congruent, so are the diagonals of a _____ .

   f. The diagonals of a _____ always intersect at right angles, so do the diagonals of a _____ .

   g. If one angle of a parallelogram is 90°, then it is also a _____ .

   h. If all the sides of a parallelogram are congruent, then it is also a _____ .

   i. The diagonals of a parallelogram always _____ each other.

2. From the drawings below, determine the indicated measurements.

   ABCD is a _____ .

   ∠AEB = _____

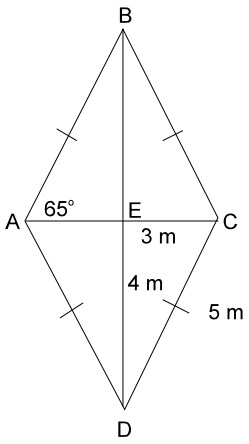
   ∠ABD = _____

   ∠DAE = _____

   $\overline{AE}$ = _____

   $\overline{BE}$ = _____

   $\overline{AD}$ = _____



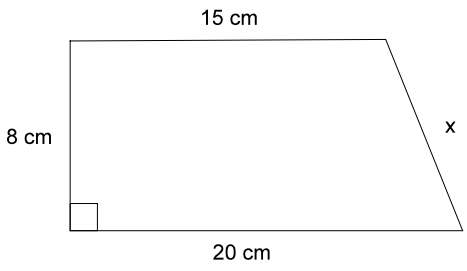
3. One side of a square is 6 m. Find the length of its diagonal. Hint: make a sketch of the square and its diagonal and then use Pythagorean Theorem.

4. The diagonal and one side of a rectangle are 14 cm and 9 cm respectively. Find the length of the other side of the rectangle.

5. A rectangle measures 13 m by 15 m. Find the length of its diagonal.

6. A rhombus has diagonals of length 42 cm and 80 cm. Find the length of the sides of the rhombus.

7. Find side x in the trapezoid.



ANSWER KEY

1. a. 360° b. congruent and parallel c. 90° d. congruent, parallel
   e. rectangle, square (in any order) f. square, rhombus
   g. rectangle h. rhombus i. bisect

2. rhombus 90°, 25°, 65°, 3 m, 4 m, 5 m

3. 8.5 m

4. 10.7 cm

5. 19.8 m

6. 45.2 cm

7. 9.4 cm