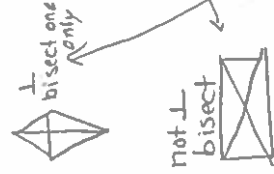
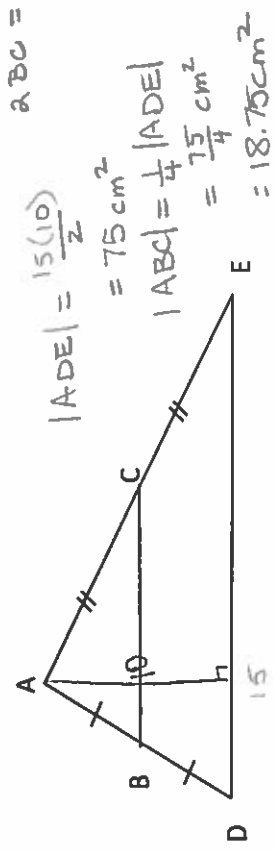


$(n-2)(180) = 2340^\circ$
 $n-2 = 13$
 $n = 15$
 (ASPT)

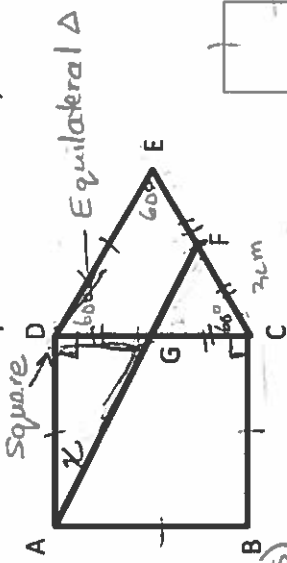
- How many sides does a polygon have if the sum of the interior angles is 2340° ?
- A regular polygon has exterior angles that measure 10° . How many sides does the polygon have?
- In a regular polygon, each interior angle measures 150° . How many sides does the polygon have?
- The diagonals of a quadrilateral bisect each other at 90° . The diagonals are not of equal length. What special quadrilateral satisfies these conditions?
- Consider the diagonals of a kite and a rectangle. State what is the same and what is different about the intersection of the diagonals of a kite and a rectangle.
- Given the following diagram. The height of $\triangle ADE$ is 10 cm. The length of side DE is 15 cm. B is the midpoint of AD, C is the midpoint of AE.



- State TWO relationships that exist between line segment BC and line segment DE.
- Calculate the area of $\triangle ABC$.

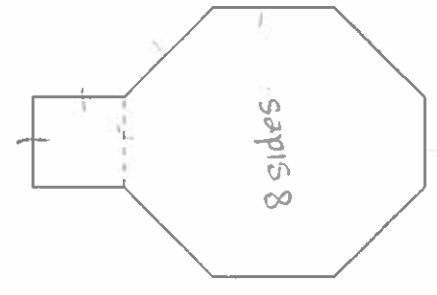


- Draw a scalene triangle. Label the vertices P, Q, and R. Draw a median of the triangle at P.
- Label the median PM. If the area of $\triangle PQR$ is 50 cm^2 , what is the area of $\triangle PMR$?



Determine the length of DE.
 $DE = 2|CF| = 6 \text{ cm}$
 Determine angle DAG.
 $\angle ADG = 90^\circ$ (ABCD square)
 GF is a midsegment of $\triangle CDE$
 so $GF \parallel DE$
 $\angle DGA = \angle CDE$ (TPT - Alternate Angles)
 $= 60^\circ$ (equilateral $\triangle CDE$)
 $\therefore \angle DAG = 180^\circ - (90^\circ + 60^\circ)$
 $= 30^\circ$ (ASTT)

- Determine the sum of interior angles for the composite shape to the right.



Square 360° - (ASGT)
 octagon $(8-2)(180^\circ)$ (ASPT)
 $= 6(180^\circ)$
 $= 1080^\circ$

Total $360^\circ + 1080^\circ = 1440^\circ$

- Answers: 1. a) $x = 30^\circ$ (OAT), $y = 110^\circ$ (EAT) b) $x = 155^\circ$ (PEAST) c) $x = 120^\circ$ (ASPT), $y = 128.6^\circ$ (ASPT), $w = 111.4^\circ$ ($x+y+w=360^\circ$) d) $x = 120^\circ$ (Supplementary), $y = 120^\circ$ (TPT-F Corresponding Angles), $w = 80^\circ$ (TPT-Z Alternate Angles) e) $x = 110^\circ$ (TPT-C Co-Interior Angles are Supplementary), $y = 70^\circ$ (TPT-Z Alternate Angles) f) $x = 56^\circ$ (ASQT) g) $x = 97^\circ$ h) $x = 140^\circ$ (EAT, TPT- Corresponding Angles, supp) i) $x = 180^\circ$ (ASPT, supp) (TT, ASTT) j) $x = 93^\circ$ (EAT) $y = 111^\circ$ (ASQT) 2. 15 sides (ASPT) 3. 36 sides (PEAST) 4. 12 sides (Supp, PEAST) 5. Rhombus 6. The diagonals of a rectangle bisect each other, the diagonals of a kite do not bisect each other (unless the kite is rhombus). The diagonals of a kite are perpendicular but the diagonals of a rectangle are only perpendicular if the rectangle is a square. A kite and a rectangle both have two diagonals but the diagonals of a kite have nothing in common with the diagonals of a rectangle. 7. a) BC is half as long as DE. BC is parallel to DE. b) $BC = 7.5 \text{ cm}$, height is 5 cm, Area is 18.75 cm^2 . 8. 25 cm^2 9. a) 6 cm (since F is a midpoint of CE, CE should be twice the length of CF and since the triangle is equilateral, DE will be equal to CE) b) angle $DAG = 30^\circ$ (angle AGD is 60° since triangle CFG is an equilateral triangle and OAT, angle ADG is 90° since ABCD is a square) 10. 1440° (ASPT)

Yes... prove it by $\angle CGF = \angle CFE$ (ITT)
 $= 180^\circ - 60^\circ$ (ASTT, given $\triangle CDE$ equilateral)
 $= 120^\circ$
 $= 60^\circ$