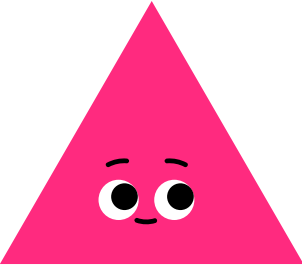
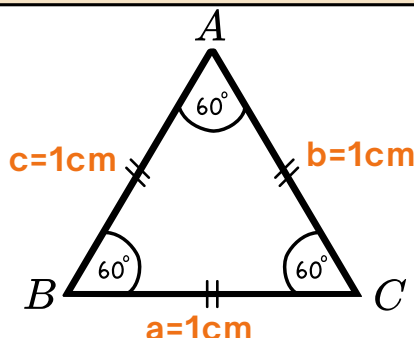
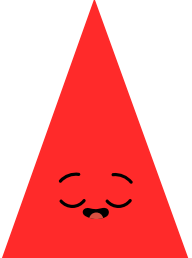
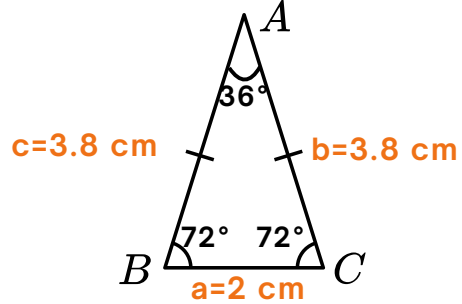
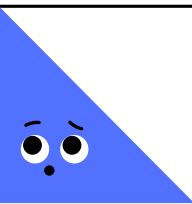
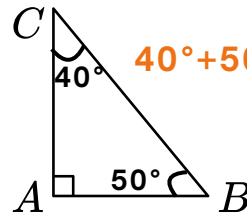
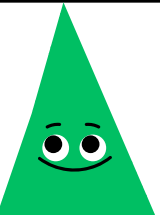
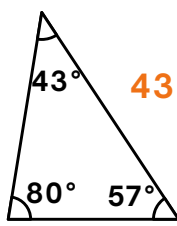
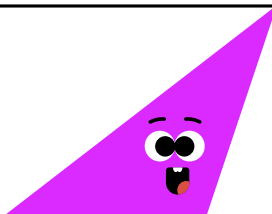
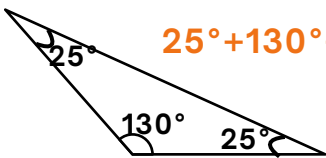
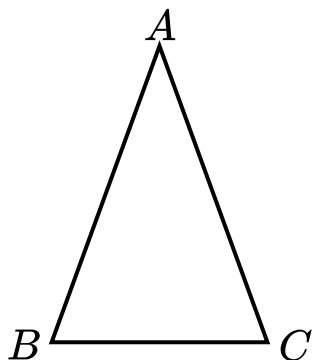


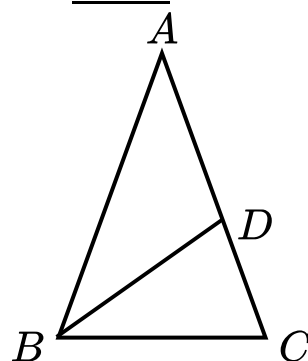
Triangle

Shape	Property	Example
 EQUILATERAL TRIANGLE	- All three sides are equal - Each angle equals 60° $a = b = c$ $\Downarrow$ $m\angle A = m\angle B = m\angle C = 60^\circ$	
 ISOSCELES TRIANGLE	- Two sides are equal - Two base angles are equal $b = c$ $\Downarrow$ $m\angle B = m\angle C$ $m\angle A = 180^\circ - 2m\angle B$ $= 180^\circ - 2m\angle C$ $m\angle B = m\angle C = \frac{180^\circ - m\angle A}{2}$	 $m\angle A = 180^\circ - 2m\angle B$ $= 180^\circ - 2m\angle C$ $= 180^\circ - 2 \times 72^\circ$ $= 36^\circ$ $m\angle B = m\angle C = \frac{180^\circ - m\angle A}{2}$ $= \frac{180^\circ - 36^\circ}{2}$ $= 72^\circ$
The sum of the interior angles of a triangle is 180° .		
 RIGHT TRIANGLE	One angle is exactly 90° $m\angle A = 90^\circ$ $\Rightarrow m\angle B + m\angle C = 90^\circ$ $(m\angle B + m\angle C = 180^\circ - m\angle A)$	 $40^\circ + 50^\circ + 90^\circ = 180^\circ$
 ACUTE TRIANGLE	All three angles are less than 90° .	 $43^\circ + 80^\circ + 57^\circ = 180^\circ$
 OBTUSE TRIANGLE	One of the angles is greater than 90° .	 $25^\circ + 130^\circ + 25^\circ = 180^\circ$

- ★ Given that $AB = AC$ and $m\angle A = 40^\circ$, $m\angle B = \underline{\hspace{1cm}}^\circ$.



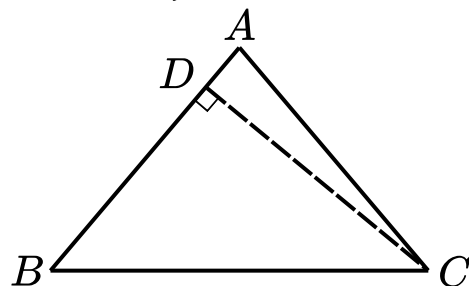
- ★ Given that $AB = AC$ and $m\angle ABD = m\angle CBD = 35^\circ$, $m\angle BDC = \underline{\hspace{1cm}}^\circ$.



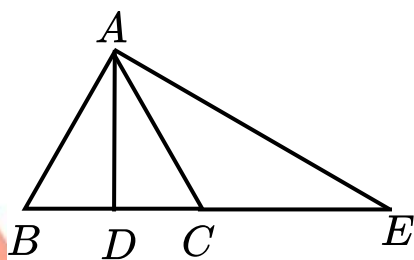
- ★ An isosceles triangle has two equal sides of 6 cm each and a base of 5 cm. Its perimeter is cm.

- ★ The perimeter of an equilateral triangle is 6 cm. The length of each side is cm.

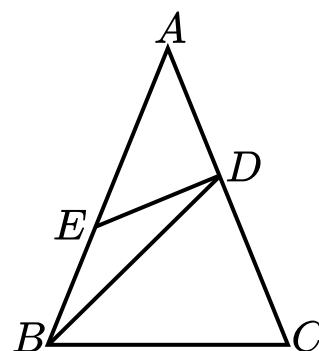
- ★ In $\triangle ABC$ shown in the figure, $AB = AC$. Point D lies on side AB, such that $CD \perp AB$. Given that $m\angle DCB = 40^\circ$, $m\angle A = \underline{\hspace{1cm}}^\circ$.



- ★ As shown in the figure, $\triangle ABC$ is an equilateral triangle, D is the midpoint of BC, and $AC = CE$.
 (1) $m\angle BAE = \underline{\hspace{1cm}}^\circ$.
 (2) Given that $AB = 2$ cm, $DE = \underline{\hspace{1cm}}$ cm.



- ★ As shown in the figure, in $\triangle ABC$, points D and E lie on sides AC and AB, respectively. $BE = DE$, $BD = BC$, and $m\angle ADE = 90^\circ$. Given that $m\angle DBE = 22.5^\circ$, $m\angle ABC = \underline{\hspace{1cm}}^\circ$.



Challenge

- ★ As shown in the figure, points P and Q lie on side BC. Given that $AP = AQ = BP = PQ = QC$, $m\angle BAC = \underline{\hspace{1cm}}^\circ$.

