Exterior Angles – Polygons

**Sum of exterior angles of ANY polygon =\_\_\_\_\_\_\_\_\_**



1. **How many degrees are there in the sum of the exterior angles of a dodecagon?**
2. **Find the number of degrees in each exterior angle of a regular pentagon**
3. **If each exterior angle of a regular polygon contains 40**$°, $**how many sides does the polygon have?**
4. **What is the measure of one exterior angle of a regular decagon?**
5. **What is the sum of the exterior angles of a polygon with 36 sides?**
6. **What is the measure of each exterior angle of a stop sign?**

 **Argument Writing
Remember the steps: 1. State your claim
 2. Show your math work
 3. Reasoning
 4. Counter Claim
Are these two lines parallel when x = 50 (use proper vocabulary!!)**

3x + 4

 155

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1. What is the sum, in degrees, of the measures of the interior angles of a stop sign, which is in the shape of an octagon?
(1) 360$°$ (3) 1,440$°$

(2) 1,080$°$ (4) 1,880$°$

1. What is the sum, in degrees, of the measures of the interior angles of a pentagon?

 (1) 180$°$ (3) 540$°$
 (2) 360$°$ (4) 900$°$

1. The measures of five of the interior angles of a hexagon are 150$°$, 100$°$, 80$°$, 165$°$, and 150$°$. What is the measure of the sixth interior angle?
(1) 75$°$ (3) 105$°$

(2) 80$°$ (4) 180$°$

1. The accompanying figure represents a section of bathroom floor tiles shaped like regular hexagons



C

What is the measure of <ABC?

(1) 60$°$ (3) 120$°$
(2) 90$°$ (4) 150$°$

B

A

1. What is the measure, in degrees, of each exterior angle of a regular hexagon?
(1) 45$°$ (3) 120$°$

(2) 60$°$ (4) 135$°$

1. A stop sign in the shape of a regular octagon is resting on a brick wall, as shown in the accompanying diagram.
 

What is the measure of angle x?
(1) 45$°$ (3) 120$°$
(2) 60$°$ (4) 135$°$

STOP

x

1. One piece of a birdhouse that Natalie is building is shaped like a regular pentagon, as shown in the accompanying diagram.

If side AE is extended to point F, what is measure of exterior angle DEF?
(1) 36$°$ (3) 108$°$
(2) 72$°$ (4) 144$°$

F

E

B

D

C

A

1. Melissa is walking around the outside of a building that is in the shape of a regular polygon. She determines that the measure of one exterior angle of the building is 60$°$. How many sides does the building have?

 (1) 6 (3) 3
 (2) 9 (4) 12