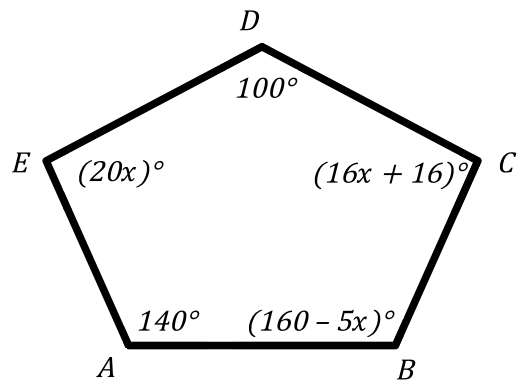




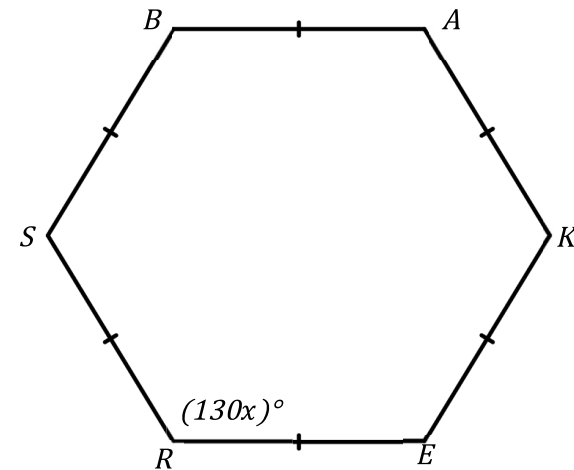
3. Consider pentagon  $ABCDE$ .



- Find the value of  $x$ .
- Find the value of each  $\angle A$ ,  $\angle B$ ,  $\angle C$ ,  $\angle D$ , and  $\angle E$ .
- Find the value of each exterior angle.

**Try It!**

4. Consider the regular hexagon below.



- Find the value of  $x$ .
- Find the value of each interior angle.
- Find the value of each exterior angle.

5. If the measure of an exterior angle of a regular polygon is  $24^\circ$ , how many sides does the polygon have?

6. Given a regular decagon and a regular dodecagon, which one has a greater exterior angle? By how much is the angle greater?

### BEAT THE TEST!

1. A teacher showed the following exit ticket on the projector.

1. What is the sum of the interior angle measures of a regular 24-gon?  
 2. Pentagon ABCDE has interior angles that measure  $60^\circ$  and  $160^\circ$  and another pair of interior angles that measure  $130^\circ$  each. What is the measure of an interior angle at the fifth vertex?

A student completed the following exit ticket.

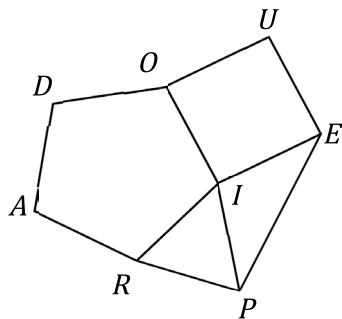
|   |  |
|---|--|
| $1) \text{ Sum} = \frac{(n-2)180}{n}$ $= \frac{(24-2)180}{24}$ $= \frac{(22)180}{24}$ $= 165$ | $2) 130 + 60 + 160 + x = (5-2)180$ $350 + x = 540$ $x = 190$ |
|---|--|

Which of the following statements is true?

- (A) Both answers are correct.
- (B) Answer #1 is incorrect. The student found the individual angle, not the sum of the angles. The answer should be  $3960^\circ$ . Answer #2 is correct.
- (C) Answer #1 is correct. Answer #2 is incorrect. There are two angles measuring  $130^\circ$ , but only one was counted in the sum. The answer should be  $60^\circ$ .
- (D) Both answers are incorrect. In #1 the student found the individual angle, not the sum of the angles. The answer is  $3960^\circ$ . In #2 there are two angles measuring  $130^\circ$ , but only one was counted in the sum. The answer should be  $60^\circ$ .



2. Consider the figure below.



$DARIO$  is a regular pentagon,  $RIP$  is an equilateral triangle, and  $EIOU$  is a square.

Part A: What is the measure of  $\angle IPE$ ?

Part B: What is the measure of exterior angle  $\angle DOU$ ?