

Polygon Angle Formulas:

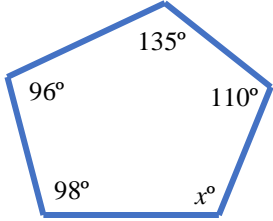
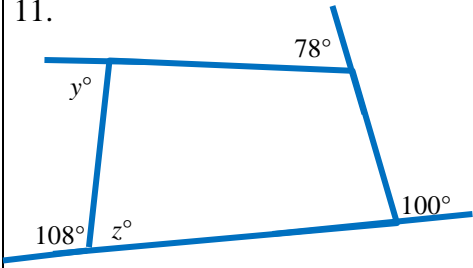
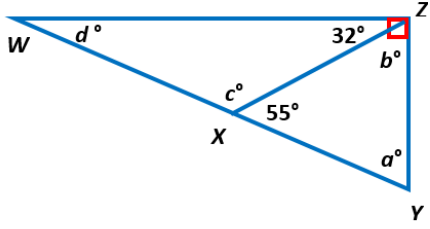
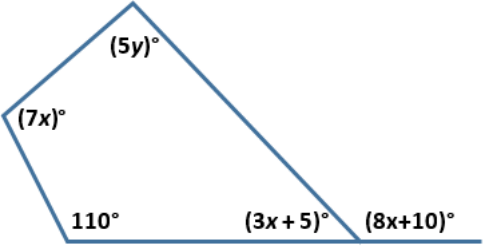
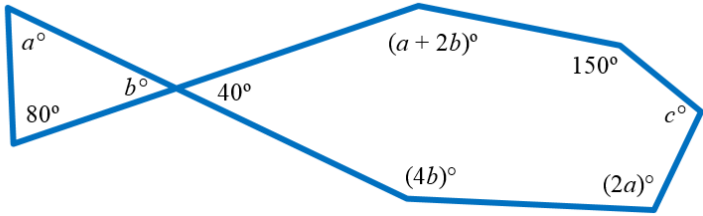
If a polygon has $n$ sides then...	
The sum of <b>all</b> the interior angles	The sum of <b>all</b> exterior angles
If a polygon is <b>regular</b> (all sides and angles are congruent) then following formulas are also true:	
<b>One</b> interior angle	<b>One</b> exterior angle

3	triangle
4	quadrilateral
5	pentagon
6	hexagon
7	heptagon
8	octagon
9	nonagon
10	decagon
11	11-gon
12	dodecagon
$n > 12$	$n$ -gon

Show work, using the formulas above, to find the answer to following questions.

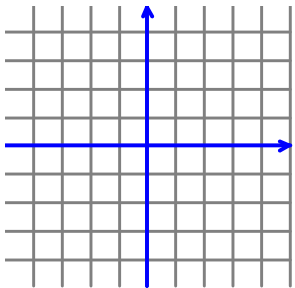
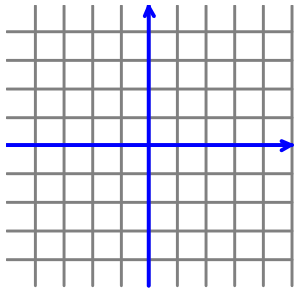
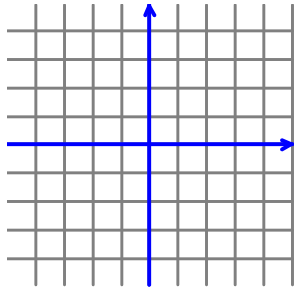
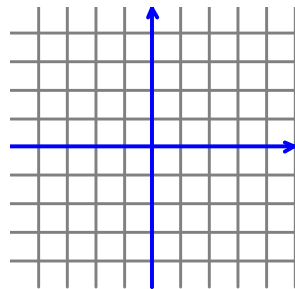
1. For a regular <b>dodecagon</b> a) Find the measure of one interior angle:  b) Find the measure of one exterior angle:	2. If the measure of one interior angle of a regular polygon is $135^\circ$ , find the number of sides.  $\frac{180(n-2)}{n} = \underline{\hspace{2cm}}$	3. If the measure of one interior angle of a regular polygon is $160^\circ$ , find the number of sides.
4. If the sum of the interior angles of a regular polygon is $1980^\circ$ , find the number of sides.	5. If one exterior angle of a regular polygon is $36^\circ$ , find the number of sides.	6. For a regular nonagon find the measure of one exterior angle.
7. What is the sum of the interior angles of a regular heptagon?	8. What is the measure of one interior angle of a regular pentagon?	9. If the measure of one exterior angle of a regular polygon is $9^\circ$ , how many sides must it have?

Find the value of each variable:

<p>10.</p> 	<p>11.</p> 	<p>12.</p>  <p><math>\triangle</math> _____ is acute, <math>\triangle</math> _____ is right, and <math>\triangle</math> _____ is obtuse.</p>
<p>13.</p> 	<p>14.</p> 	

Answers: 15, 19, 23, 40, 58, 60, 67, 72, 74, 80, 101, 110, 125, 130

Review:

<p>15. Graph: <math>y = \frac{2}{3}x - 1</math></p> 	<p>16. Graph: <math>y = 3</math></p> 	<p>17. Graph: <math>x = -1</math></p> 	<p>18. Graph: <math>4x = -3y</math></p> 
<p>19. Find the equation of the line that passes through <math>(3, 8)</math> and <math>(-4, 8)</math></p>	<p>20. Find the equation of the line that is parallel <math>y = 3x - 5</math> that passes through the point <math>(-2, 7)</math>.</p>		