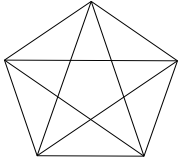
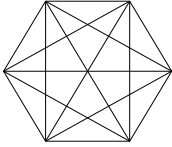
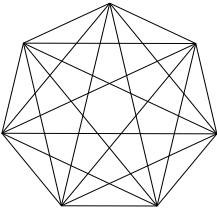
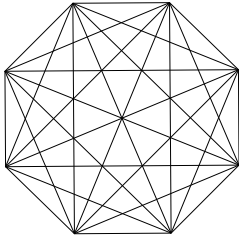
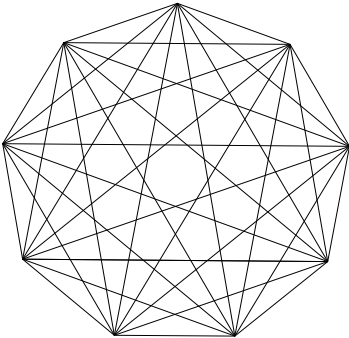
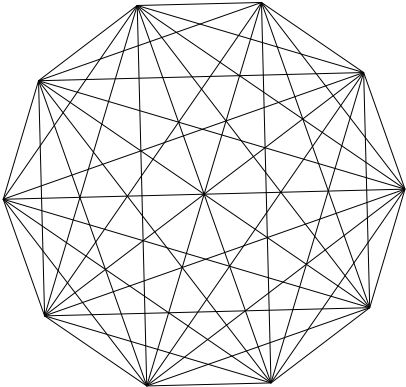


A student joins all of the vertices of a regular polygon, as shown below. The number of sides is  $n$ , and  $T$  is the number of points of intersection, including the vertices of the polygon itself.

- (a) How many points of intersection for a dodecagon?
- (b) How many points of intersection for a 17-agon?
- (c) What is the general rule for  $T$  in terms of  $n$ ?

<p><math>n = 5, T = 10</math></p> 	<p><math>n = 6, T = 18</math></p> 
<p><math>n = 7, T = 35</math></p> 	<p><math>n = 8, T = 56</math></p> 
<p><math>n = 9, T = 90</math></p> 	<p><math>n = 10, T = 120</math></p> 
<p><math>n = 11, T = 176</math></p> 