Honors Lesson 22

1. This bird is red.
2. $\angle A$ is congruent to $\angle B$.
3. I get 100% on my math test.
4. This triangle has two congruent sides.

Honors Lesson 23

1. If I get burned, I touch the hot stove.
2. If two line segments are congruent, they have equal length.
   True.
3. If a bird is red, it is a cardinal.
   Not necessarily true.
4. If the leg squared plus the leg squared equals the hypotenuse squared, the triangle is a right triangle.
   True.
5. If my plants wilt, I stop watering them.
   Not true if I am sensible!

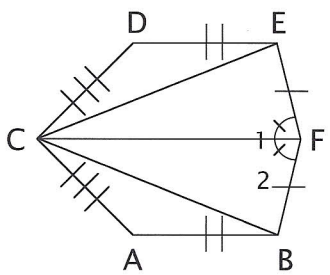
Honors Lesson 24

1. 50°; the measure of an inscribed angle is half the measure of the intercepted arc.
2. 130°; $180° - 50°$
3. 50°; same reason as #1
4. 80°; $180° - (50° + 50°)$
5. 160°; $360° - (100° + 100°)$
6. 80°; vertical angles
7. 85°; $180° - 95°$
8. 15°; $180 - (80° + 85°)$
   checking results with remote interior angles: $80° + 15° = 95°$
9. 80°; angle 1 and the 70° angle next to it put together form an angle that is the alternate interior angle to the 150° angle at the top left.
   $150° - 70° = 80°$
10. 70°; alternate interior angles
11. 30°; $180° - (70° + 80°)$
12. 30°; alternate interior angles

Honors Lesson 25

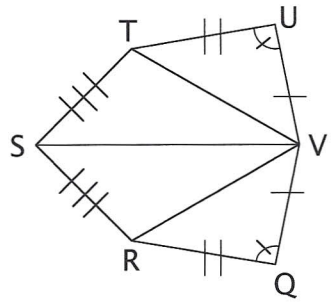
1.

Statements	Reasons
$\overline{AF} \cong \overline{EF}$	Given
$\angle 1 \cong \angle 2$	Given
$\overline{CF} \cong \overline{CF}$	Reflexive
$\triangle CEF \cong \triangle CAF$	SAS
$\overline{CE} \cong \overline{CA}$	Corresponding parts of congruent triangles
$\triangle CDE \cong \triangle CBA$	SSS
$\angle CDE \cong \angle CBA$	Corresponding parts of congruent triangles



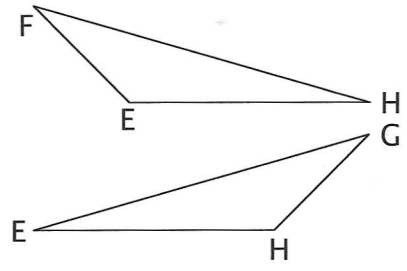
2.

Statements	Reasons
$\overline{TU} \cong \overline{RQ}$	Given
$\angle TUV \cong \angle RQV$	Given
$\overline{UV} \cong \overline{QV}$	Given
$\triangle TUV \cong \triangle RQV$	SAS
$\overline{TV} \cong \overline{RV}$	CPCTRC
$\overline{ST} \cong \overline{SR}$	Given
$\overline{SV} \cong \overline{SV}$	Reflexive
$\triangle TSV \cong \triangle RSV$	SSS
$\angle TSV \cong \angle RSV$	CPCTRC



3.

Statements	Reasons
$\overline{FE} \cong \overline{GH}$	Given
$\overline{FH} \cong \overline{GE}$	Given
$\overline{EH} \cong \overline{EH}$	Reflexive
$\triangle FEH \cong \triangle GHE$	SSS



Honors Lesson 26

1.

Statements	Reasons
$\overline{AB} \cong \overline{AC}$	Given
$\angle ARB \cong \angle AQC$	Perpendicular
$\angle BAR \cong \angle CAQ$	Reflexive
$BAR \cong CAQ$	AAS
$\overline{CQ} \cong \overline{BR}$	CPCTRC

2.

Statements	Reasons
$\overline{XB} \cong \overline{YB}$	Definition of bisector
$\angle XBA \cong \angle YBA$	Definiton of Perpendicular
$\overline{BA} \cong \overline{BA}$	Reflexive
$XBA \cong YBA$	SAS
$\overline{XA} \cong \overline{YA}$	CPCTRC

3.

Statements	Reasons
$\overline{EF} \cong \overline{GF}$	From proof above
$\overline{EX} \cong \overline{GX}$	Definition of Bisector
$\overline{FX} \cong \overline{FX}$	Reflexive
$EFX \cong GFX$	SSS
$\angle EXH \cong \angle GXH$	Definition of Perpendicular
$\overline{HX} \cong \overline{HX}$	Reflexive
$EHX \cong GHX$	SAS
$\overline{EH} \cong \overline{GH}$	CPCTRC

Honors Lesson 27

1.

Statements	Reasons
$\overline{XC} \cong \overline{YC}$	Radius of a circle
$\angle PYC \cong \angle PXC$	A tangent of a circle is perpendicular to the radius at that point.
$\overline{PC} \cong \overline{PC}$	Reflexive
$\triangle PYC \cong \triangle PXC$	HL
$\overline{PX} \cong \overline{PY}$	CPCTRC