Level 1 Geometry Review Answers

Review 1:

1. A regular polygon is a polygon with all sides congruent and all angles congruent.
2. 6840°
3. 58°
4. 4°
5. 150°
6. 720 sides
7. 36 sides
8. 42 sides
9. False
10. 72 sides
11. 24°
12. 56.25°, 56.25°, 67.5°
13. 34°
14. 65°
15. 50°, 40°
16. $9<x<19$

Review 2:

1. 1. Givens 2. $\overline{AF} \cong \overline{CD}$ opp. sides ≅ 3. ∠A≅∠D opp ∠s≅ 4. ΔAFB≅ΔDCE ASA 5. $\overline{AB} \cong \overline{ED}$ CPCTC 6. $\overline{FD} \cong \overline{AC}$ opp sides ≅ 7. $\overline{FE} \cong \overline{BC}$ Subtraction 8. $\overline{FB} \cong \overline{EC}$ CPCTC 9. FBCE is a p-gram two pr of opp sides ≅

2. 1. Givens 2. $\overline{AR} \cong \overline{BK}$ Transitive 2. ∠C≅∠ARC Base Angles 3. ∠ARC≅∠K transitive 4. $\overline{AR} \parallel \overline{BK}$ Corr. Angles Thm 5. BARK is a p-gram one pr of opp sides ≅ and ||

3. 1. Givens 2. $\overline{NW} \cong \overline{RT}$ $\overline{WT} \cong \overline{NR}$ opp sides of p-gram ≅ 3. $\overline{XW} \cong \overline{RS}$ $\overline{VT} \cong \overline{NP}$ subtraction 4. ∠W≅∠R ∠N≅∠T opp ∠s≅ 5. ΔXNP≅ΔSTV ΔWXV≅ΔRSP SAS 6. $\overline{XV} \cong \overline{PS}$ $\overline{XP} \cong \overline{VS}$ CPCTC 7. XPSV is a p-gram opp sides of a p-gram ≅

4. 1. Givens 2. $\overline{SO} \cong \overline{RT}$ $\overline{RS} \cong \overline{TO}$ opp sides ≅ 3. $\overline{RS} \parallel \overline{TO}$ $\overline{RT} \parallel \overline{SO}$ opp sides || 4. ∠RST≅∠STO ∠RTS≅∠TSO alt. int. ∠s≅ 5. ∠RSM≅∠OTP ∠MSO≅∠PTR Supp ≅∠ are ≅ 6. ΔRSM≅ΔOTP ΔMSO≅ΔPTR SAS 7. $\overline{RM} \cong \overline{PO}$ $\overline{RP} \cong \overline{MO}$ CPCTC 8. MOPR is a p-gram opp sides of a p-gram are ≅

5. 1. Givens 2. ∠ABC≅∠ACB Base Angles 3. ∠1≅∠2 supp. of ≅∠ are ≅

6. 1. Givens 2. ∠K≅∠P Base Angles 3. ΔRKM≅ΔRPO ASA 4. $\overline{RM} \cong \overline{RO}$ CPCTC

7. 1. Givens 2. $\Delta SWX \cong \Delta TZY$ SSS 3. $\angle W \cong \angle Z$ CPCTC 4. $\overline{RW} \cong \overline{RZ}$ CITT

8. 1. Givens 2. $\overline{RS} \cong \overline{RS}$ Reflexive 3. $\overline{PS} \cong \overline{RT}$ Addition 4. $\Delta NPS \cong \Delta VTR$ SAS 5. $\angle WRS \cong \angle WSR$ CPCTC 6. $\overline{WR} \cong \overline{WS}$ CITT 7. ΔWRS is isosceles Def of isosceles

9. 1. Givens 2. $\overline{GH} \cong \overline{GH}$ Reflexive 3. $\Delta FGH \cong \Delta JHG$ SAS 4. $\overline{FH} \cong \overline{GJ}$ $\angle JGH \cong \angle FHG$ CPCTC 5. $\overline{GK} \cong \overline{KH}$ CITT 6. $\overline{FK} \cong \overline{KJ}$ Subtraction 7. ΔFKJ is isosceles Def. of isosceles

Review 3:

1. See me for solution

2. 1. Givens 2. $\overline{BE} \cong \overline{BD}$ CITT 3. $\Delta AEB \cong \Delta CDB$ SAS 4. $\angle A \cong \angle C$ CPCTC

3. 1. Givens 2. $\overline{DB} \cong \overline{EC}$ Subtraction 3. $\angle ABC \cong \angle ACB$ ITT 4. $\overline{BC} \cong \overline{BC}$ Reflexive 5. $\Delta DBC \cong \Delta ECB$ SAS 6. $\angle DCB \cong \angle EBC$ CPCTC 7. $\overline{FB} \cong \overline{FC}$ CITT 8. ΔFBC is isosceles Def of isosceles.

Review 4:

1. a. SSS b. AAS c. AAS d. NN e. ASA or AAS f. AAS g. SAS h. NN i. HL
2. 1. Givens 2. $\Delta CDY \cong \Delta ABX$ HL 3. $\angle YDC \cong \angle XBA$ CPCTC 4. AB||DC If alt. int. $\angle$s $\cong$, lines are || 5. ABCD is a p-gram One pr of opp sides are $\cong$ and ||
3. a. 68° b. 57°
4. 1. Givens 2. $\angle CAO \cong \angle DBO$ If || lines, alt. int. $\angle \cong$ 3. $\angle AOC \cong \angle DOB$ vertical $\angle$s$\cong$ 4. $\Delta AOC \cong \Delta BOD$ ASA
5. a. 48° b. 64° c. 26° d. 20° e. 58° f. 80°

Review 5:

1. 204.74 feet
2. height = 14.82 area = 325.94
3. x = 13°, y = 51.98°, z = 53.34°
4. 0.979 miles
5. Area of sector = 49.8π, Area of triangle = 120.28, Area of segment = 49.8π-120.8
6. 174.58
7. 688.19
8. a. 1 b. $\frac{1}{2}$ c. $\frac{\sqrt{2}}{2}$

Review 6:

1. 85
2. 33
3. 27.58
4. They are all 78.5%
5. 32π
6. 12.64
7. base radius = 5, altitude = 15, lateral area = 150π
8. 17.89 inches
9. volume = 7350, total surface area = 2688
10. x = 27, y = 4
11. x = 10, y = 5
12. x = 27, y = 45

Review 7:

1. a. Venn Diagram
   b. If you get a headache, then you banged your head against the wall.
   Not necessarily true.
   c. If you do not bang your head against the wall, you will not get a headache.
   Not necessarily true.
   d. If you do not get a headache, you did not bang your head against the wall.
   True
   e. Joe Max got a headache.
   f. Ozzie has never banged his head against the wall.
   g. No conclusion possible.
   h. No conclusion possible.

2. a. Always true
   b. neither
   c. neither
   d. Always true

3. $\sqrt{105}$
4. 5.25
5. $8\sqrt{15}$
6. 65°
7. angles - 86°, 66° arcs - 56°, 132°
8. 43°

Review 8:

1. front doors: 1:12; floor areas: 1:44; attic volumes: 1:1728
2. 18 sides
3. 120°
4. 52.3%

Review 9:

Transformations:

1a. translation 3 up and 5 to the left

1b. reflection over the line y=-1

1c. ?

1d. reflection over the line y= x

1e. rotation about (0 , 3)

Coordinates:

1. $m_{AB} = \frac{12}{5}; m_{BC} = \frac{19}{22}; m_{AC} = \frac{-5}{12}$

   The triangle is a right triangle because the slopes of 2 of the sides are opposite reciprocals. $\angle A$ is the right angle.

   Area of the triangle is 169 square units.

2. PD = $\sqrt{49+36} = \sqrt{85}$

   DQ = $\sqrt{4+64} = \sqrt{68}$

   PQ = $\sqrt{4+81} = \sqrt{85}$

   Therefore, it is isosceles because PD = PQ.

3. Center = (11 , 5.5)

   Radius = 12.5