**GEOMETRY 21: Review for Final Exam  *ANSWER KEY***

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| ***Part 1***1. F
2. F
3. T
4. F
5. Point C
6. Line AB
7. Line CG
8. Yes
9. Segment EB
10. Infinitely many
11. x=7, m∡3=52o
12. 180 – y
13. ∡3 and ∡6
14. ∡DGF and ∡AGF
15. Parallel
 | 1. Rotation 17) Reflection 18) Translation

19) incenter, inscribed20) circumcenter, circumscribed21) centroid22) orthocenter  |

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| ***Part 2***1. If an animal is a turtle, then it is a reptile.
2. Hyp.: It is a turtle, Concl.: it is a reptile
3.
4. If angles are a linear pair, then they are supplementary, adjacent angles
 | 1. If angles are supplem, and adjacent, then they form a linear pair.
2. Angles are a linear pair if and only if they are supplem. and adjacent.
3. Yes, both conditional and converse are true.
4. X=50o
5. X=15o
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| 1. F 15) E
2. G 16) C
3. D 17) B
4. A 18) H
 | 1. x = 4.08 23) 149.72
2. 47.56 24) 132.44
3. 102.16 25) 30.28
4. 30.28 26) 47.56
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| ***Part 3***1. C 4) C
2. C 5) C
3. B 6) A
 | 7) c 11) c 15) d 19) a8) d 12) a 16) b 20) c9) c 13) d 17) c 21) b10) b 14) c 18) b 22) a23) F 24) T 25) T 26) T 27) T 28) 65o 29) 60o | 30)  |

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| ***Part 4***1. x=15, y=38 2) x=7/2 or -3 3) A=6, b=15
 | 1. Yes, AAS or ASA 6) yes, any AAS, ASA,
2. No SAS or SSS
 |
| 7) no 8) yes AAS or ASA 9) yes, HL | 10)  |
| 11) 13) a. 134°; b. x=7, y=4 | 12)  7 – the bisector of the vertex Angle of an isosisbis. of base |

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| ***Part 5***1. 966 u2
2. 254 in2
3. 160 u2
4. 12.5 u2
 | * + 1. u2

6) 31.5 m28)a) rightb)obtusec)obtuse | 7) slopes  Dist. Form.AB=BC=CD=AD=5Rhombus, Area=20 u2 | 9) 49 in210) 8 cm211) p=2412)dist. Form. MT=AH= b | 13) mdpts. 14) slope of   so 15) 10.716) x= 5, y=10 | 17) 3 cm18) x=25 in19) 30.9020) 192 or 332.55 cm221) 36 or 62.35 ft2 |

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| ***Part 6***1) 2) plane ABC 3)plane ABCplane GFE, plane CDEplane ABH |
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| ***Part 7*** *\*all SA are in square units, all V in cubic units*1) SA=186 V=1262) SA= V=or SA=759.6, V=1039.233) SA=144+18 V=72 or SA=175.2, V=124.74) SA=320 V=300 | 5) 406) B = 1. H =15
2. l = 18.93
3. SA= 1828.6
4. 2184

11) r = 1.04 (need quad form for this one)12) h = .313) r = 1.3 | 14) 415.1 (1304.2)15) 1033.37 (3246.4)16) l= 11 m17) (68,094)18) V = 691.2 (2171)19) ) r=4.33, SA=142.1520) 1621) r = 322) 11,494.0423) 94.0324) 523.625) SA = 4 + 8 V = 56 SA = 28.4 89.13 V= 58.61326) SA = 126 + 54 V = 126 SA= 250.45 V 218.24 |

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| ***Part 8***1. a 2) d 3)c 4) c 5)a 6) d 7) c 8) c 9) d 10) b 11) b 12) c 13) c 14) d 15) a
2. b 17) b 18) b 19) c 20) c 21) always 22) sometimes 23) always 24) always

25) x = 35/4  8.75, y = 14 26) a)  b)  c)  d)  |
| 27)   |

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| ***Part 9 \*all answers in degrees***1. 144
2. 134
3. 98
 | 1. 23
2. 49
3. 49
4. 12
5. 78
 | 1. 300
2. 60
3. 102
4. 468/
5. 176/9 mm
 | 1. 65
2. 40
3. 28
4. 57.5
5. 52
 | 1. 63
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***Part 10***

105.0 ft 2) 1.9 m 3) 15.8 km 4) 946.37 5) 32° 6) 37°

***Part 11***

1. Assume  is a median, then I is midpoint of , FI = IH by defn. midpoint.  by defn congruent.  by reflexive. Given that ∡GIF∡GIH, then by SAS. By CPCTC, , so is isosceles by defn of isosceles. But this contradicts the given which says is not isosceles. So our assumption must be false and  is not a median.
2. Assume . Then ∡3∡1 by corresponding ∡s postulate. Since , ∡1∡2 also by corresponding ∡s postulate. So ∡3∡2 by transitive property. Therefore  by converse of corresponding ∡s postulate. But this contradicts the given which says that line *s* is not parallel to line *t*. My assumption is false and line r is not parallel to line t.