**Analytic Geometry**

**FBM #2 Study Guide**

**Chapters 1-9**

Geometry FBM#2 – # of questions by topic

1. Properties 🡪 1
2. Parallel lines (chapter 3) 🡪 1
3. Congruent Triangles(chapters 4-5) 🡪 3
4. Angles in a triangle 🡪 3
5. Perpendicular/Angle Bisectors 🡪 1
6. Parallelograms (chapter 7) 🡪 6
7. Midsegment of a triangle 🡪 1
8. Transformations 🡪 1
9. Similar Triangles and proportional parts (chapter 8) 🡪 4
10. Right Triangle trig (chapters 9-10) 🡪 4
11. **TP = TP**
12. **If** $m<A=m<B$ **and** $m<B=m<C$**, then** $m<A=m<C$**.**
13. $2\left(x-3\right)=2x-6$
14. **If x = 8, then 8 = x.**
15. **If 3x = 90, then x = 30.**
16. **If** $x = y$**, then** $x –2=y –2$**.**
17. **The measures of the angles of a triangle are m< A = 3x + 4, m<B = 2x and m<C = 5x – 24. Solve for x and m<C**
18. **Find** $m<G$



1. **Given: ∆ RGA and ∆PMC with** $\overbar{ RG} ≅\overbar{PM}$**,** $\overbar{RA} ≅\overbar{PC}$**, and** $∠R ≅ ∠P$**. Which method could be used to prove that ∆ RGA** $≅$ **∆PMC? (Hint: Draw a picture)**

 **a. SSS b. SAS c. HL d. ASA e. Not enough info.**

**Determine if the triangles are congruent. MARK your diagrams! If so, write a congruency statement AND state the method of proving them congruent. If not, write “no congruence”.**

1.  **11.**  **12.** 

B

C

D

A

13.  14. ****

15. **** 16. 

****

**17. Given that line t is the perpendicular bisector of** $\overbar{JK} $**and GK = 8.25, find GJ**

**18. Given that line t is the perpendicular bisector of** $\overbar{JK}$**, JG = x + 12 and KG = 3x – 16, and JH = x-7, find KG and JH.**

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**19. Given that GJ = 70.2, JH = 26.5, and GK = 70.2, find JK.**

**20. Given that** $m∠RSQ=m∠TSQ$ **and TQ = 1.3, find QR**

**21. Given that** $m∠RSQ=58^{°}$**, RQ = 49 and TQ = 49, find** $m∠RST$

**For problems 22-23, find the value of x.**

**22.**   **23.**  

**Use the given diagram to answer questions 24 - 26.**

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1. **ST =**

1. **PU =**

1. **QR =**

**27. Solve for x.**

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**#’s 28-30 List the additional properties of the diagonals of the following parallelograms**

**28. Rectangle**

**29. Rhombus**

**30. Square**

**PQRS is a parallelogram. PT = 47, PS = 70, m<SPT = 20⁰, and m<QRS = 66⁰. Find each of the following measures.**

**31. RT 32. m < RSP** 

**33. QR 34. If PT = 2x and PR = 6x-1, find PT**

**35. m < QPT 36. RS**

**PQRS is a rectangle. PQ = 44, PR = 72,** $m∠SPT=(4t-5)^{°}, m∠QRT=(3t+7)^{°}. $**Find each of the following measures**

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**37. SR 38. m < PSR 39. TQ 40. m < QRP**

**CDEF is a rhombus.** $The m∠EGF=(6y+9)^{°}, m∠GEF=68^{°}, and m∠GFE=22^{°}.$ **Find each of the following measures.**

|  |  |
| --- | --- |
|  | 1. **x**
2. **EF**
3. **y**
4. **m<EFC**
 |

**Given square ABCD**

1. **If m< ABC = 6x-2, solve for x**
2. **If m<ADO = 8x+5, solve for x**
3. **If AB = x-5 and DC = 2x-7, Find BC**



**48. The scale factor ∆AEB to ∆DEC is 5:2. If DE = 7, then AE = ?**

**49. Find the scale factor:** 

**Determine if the triangles are similar. List the parts, the postulate or theorem used, and if similar, write a similarity statement. If not similar, show enough work to prove why.**

**50.** **51.** 

1. **Find the value of x.** $ \frac{3x+7}{4}=\frac{x+3}{2}$
2. **Find x**



 **54. Solve for x.**



**55. Solve for x.**



**56. Write the following formulas**

* 1. **Pythagorean Theorem (Right Triangle)**

* 1. **45-45-90**

* 1. **30-60-90**
	2. **Trig Ratios**

**57. Find the missing sides. 58. Find the missing sides.**







1. **Find the missing side in simplified radical form**



**Express answers as a ratio and a decimal.**

**64. 65. 66.**

  

