

**Analytic Geometry**  
**FBM #2 Study Guide**  
**Chapters 1-9**

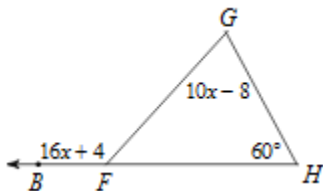
Geometry FBM#2 – # of questions by topic

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

1.  $TP = TP$
2. If  $m < A = m < B$  and  $m < B = m < C$ , then  $m < A = m < C$ .
3.  $2(x - 3) = 2x - 6$
4. If  $x = 8$ , then  $8 = x$ .
5. If  $3x = 90$ , then  $x = 30$ .
6. If  $x = y$ , then  $x - 2 = y - 2$ .

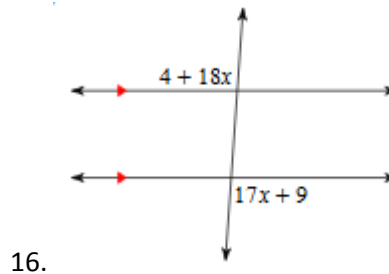
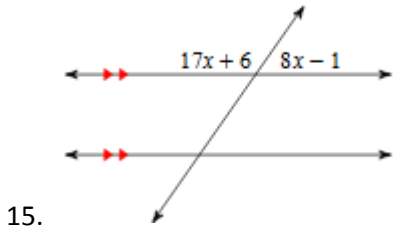
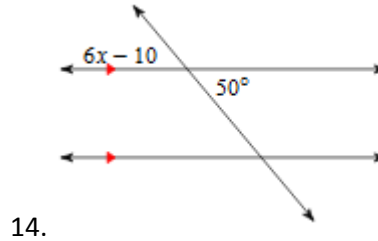
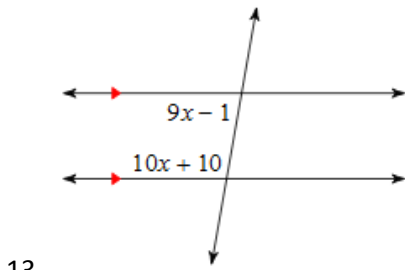
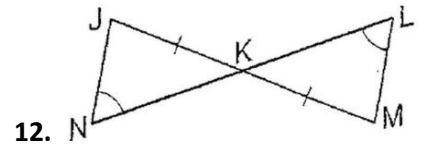
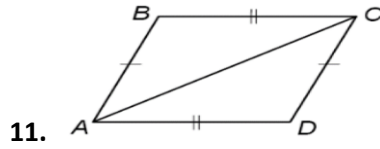
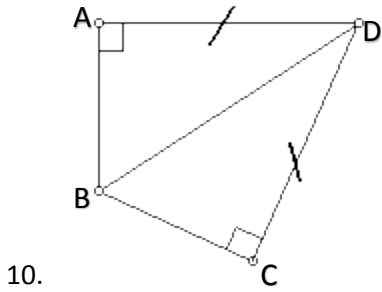
7. The measures of the angles of a triangle are  $m\angle A = 3x + 4$ ,  $m\angle B = 2x$  and  $m\angle C = 5x - 24$ . Solve for  $x$  and  $m\angle C$

8. Find  $m\angle G$



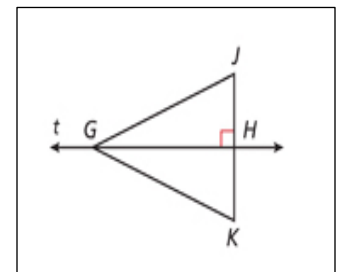
9. Given:  $\triangle RGA$  and  $\triangle PMC$  with  $\overline{RG} \cong \overline{PM}$ ,  $\overline{RA} \cong \overline{PC}$ , and  $\angle R \cong \angle P$ . Which method could be used to prove that  $\triangle RGA \cong \triangle PMC$ ? (Hint: Draw a picture)
- a. SSS
  - b. SAS
  - c. HL
  - 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".



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

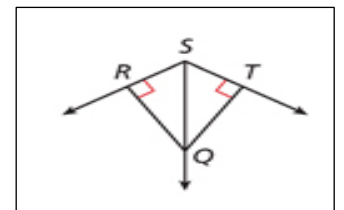
18. Given that line  $t$  is the perpendicular bisector of  $\overline{JK}$ ,  $JG = x + 12$  and  $KG = 3x - 16$ , and  $JH = x - 7$ , find  $KG$  and  $JH$ .



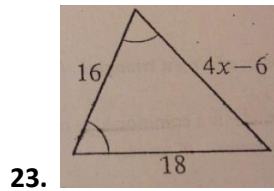
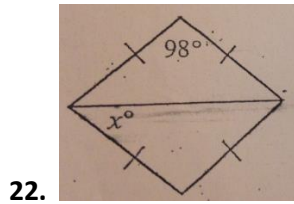
19. Given that  $GJ = 70.2$ ,  $JH = 26.5$ , and  $GK = 70.2$ , find  $JK$ .

20. Given that  $m\angle RSQ = m\angle TSQ$  and  $TQ = 1.3$ , find  $QR$

21. Given that  $m\angle RSQ = 58^\circ$ ,  $RQ = 49$  and  $TQ = 49$ , find  $m\angle RST$



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

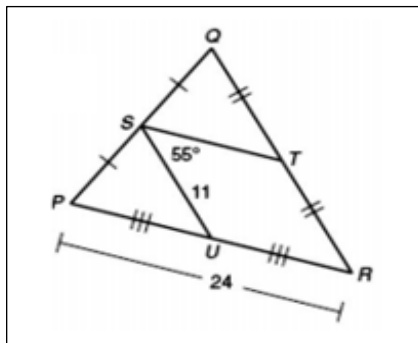


Use the given diagram to answer questions 24 - 26.

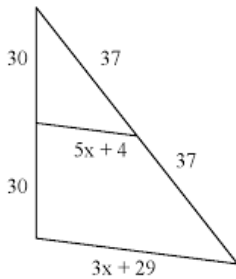
24.  $ST =$

25.  $PU =$

26.  $QR =$



27. Solve for  $x$ .



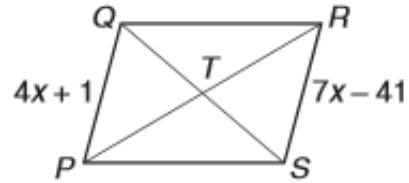
#'s 28-30 List the additional properties of the diagonals of the following parallelograms

28. Rectangle

29. Rhombus

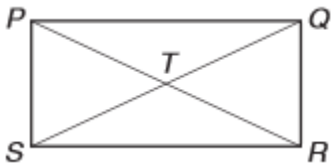
30. Square

PQRS is a parallelogram.  $PT = 47$ ,  $PS = 70$ ,  $m\angle SPT = 20^\circ$ , and  $m\angle QRS = 66^\circ$ . Find each of the following measures.



- 31. RT
- 32.  $m\angle RSP$
- 33. QR
- 34. If  $PT = 2x$  and  $PR = 6x - 1$ , find PT
- 35.  $m\angle QPT$
- 36. RS

PQRS is a rectangle.  $PQ = 44$ ,  $PR = 72$ ,  $m\angle SPT = (4t - 5)^\circ$ ,  $m\angle QRT = (3t + 7)^\circ$ . Find each of the following measures

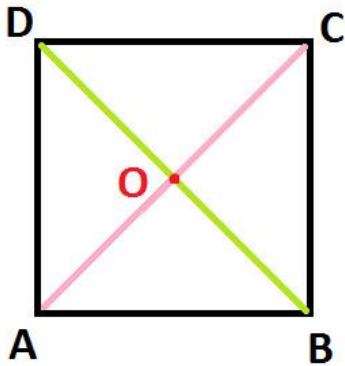


- 37. SR
- 38.  $m\angle PSR$
- 39. TQ
- 40.  $m\angle QRP$

CDEF is a rhombus.  $m\angle EGF = (6y + 9)^\circ$ ,  $m\angle GEF = 68^\circ$ , and  $m\angle GFE = 22^\circ$ . Find each of the following measures.

<p>ombus en values.</p>	<ul style="list-style-type: none"> <li>41. x</li> <li>42. EF</li> <li>43. y</li> <li>44. <math>m\angle EFC</math></li> </ul>
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Given square ABCD

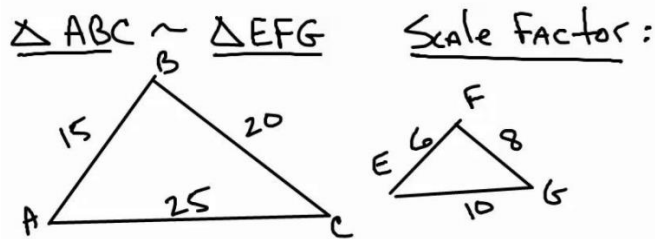


45. If  $m\angle ABC = 6x - 2$ , solve for  $x$

46. If  $m\angle ADO = 8x + 5$ , solve for  $x$

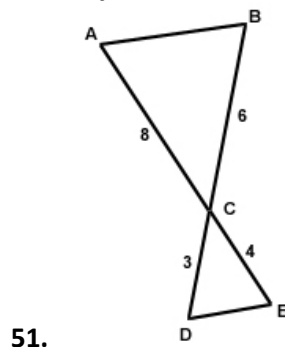
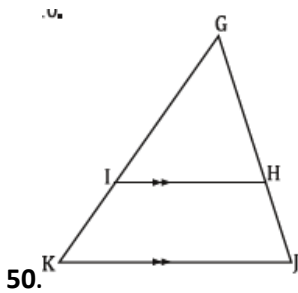
47. If  $AB = x - 5$  and  $DC = 2x - 7$ , Find  $BC$

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



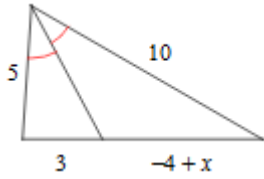
49. Find the scale factor:

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.

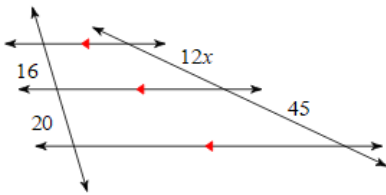


52. Find the value of x.  $\frac{3x+7}{4} = \frac{x+3}{2}$

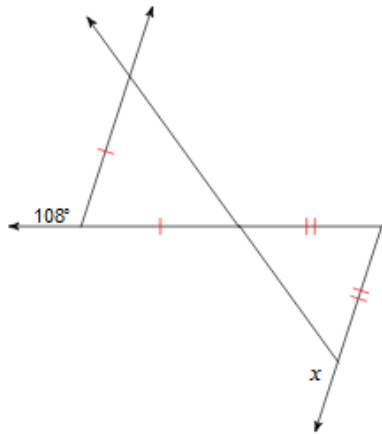
53. Find x



54. Solve for x.



55. Solve for x.



56. Write the following formulas

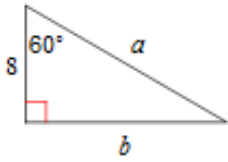
a. Pythagorean Theorem (Right Triangle)

b. 45-45-90

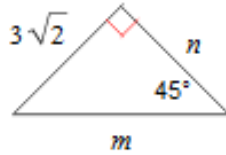
c. 30-60-90

d. Trig Ratios

57. Find the missing sides.

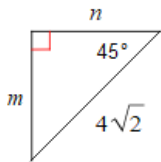


58. Find the missing sides.

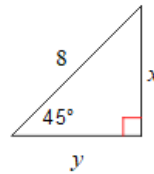


Find the missing side lengths. Leave your answers as radicals in simplest form.

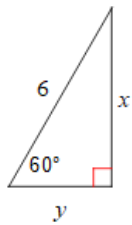
1)



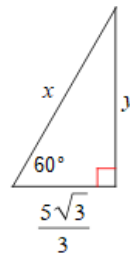
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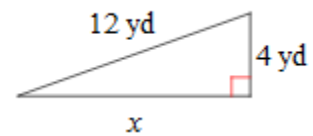
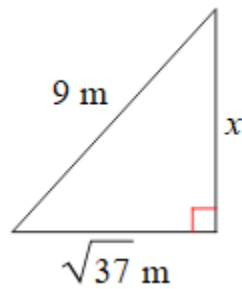
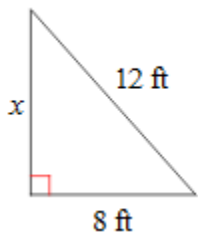
3)



4)



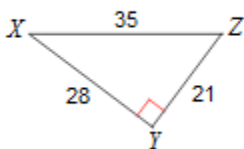
63. Find the missing side in simplified radical form



Express answers as a ratio and a decimal.

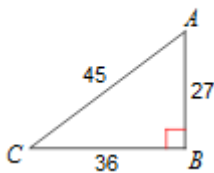
64.

$\tan Z$



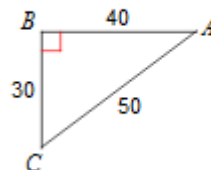
65.

$\sin A$



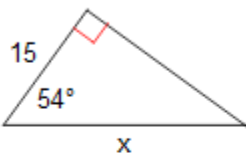
66.

$\cos A$

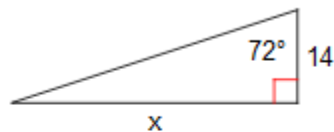


Find the missing side. Round to the nearest tenth.

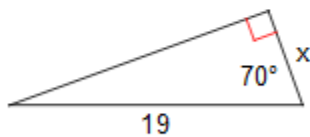
1)



2)



3)



4)

