Test 1 MAT 104 Summer 2008 Name _____

Simplify all answers and show your work!

1. There are __180__ degrees in a line.

2. There are __180__ degrees in a triangle.

3. There are _360__ degrees in a circle.

4. What is the vertex of ∠PTG? ___T____

5. An angle that is between 90^o and 180^o is called ___acute____.

6. An angle with a measure of 90^o is a _right_ angle.

7. Two lines in a plane that do not cross are called ___parallel___ lines.

8. Perpendicular lines cross in a ___90___ degree angle.

9. Write in scientific notation: 68,000,000

6.8×10^7

10. Write in engineering notation: 0.00000059

590×10^{-9}

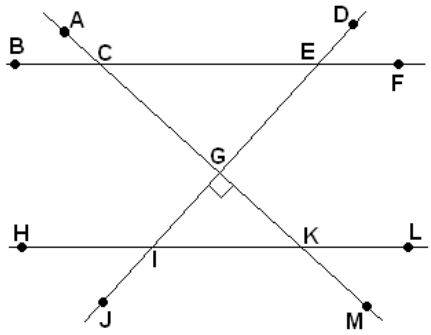
11. Write using the correct metric prefix: 0.00000084 meters

840 nanometers

12. 9.26 L = _9260__ mL

13. 3.1 cm = __0.031__ m

Refer to the figure below for problems 14 – 19.



14. Name an acute angle. _____

Any angle between 0^o and 90^o will be correct.

15. Name an obtuse angle. _____

Any angle between 90^o and 180^o will be correct.

16. Name a right triangle. _____

ΔCGE or ΔGIK

17. What is the measure of angle EGC?

90^o

If the measure of angle BCG is 142^o:

18. find the measure of angle ECG.

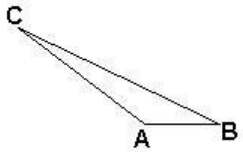
38^o

19. find the measure of angle CEG.

52^o

Classify the following triangles as a) acute, right, or obtuse and b) scalene, isosceles, or equilateral.

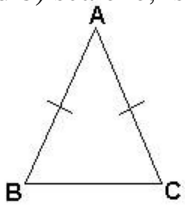
20.



a) ____obtuse____

b) ____scalene____

21.

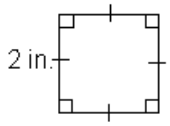


a) _____acute_____

b) ____isosceles____

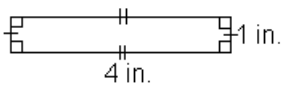
22. Draw an example of two figures that have the same area but different perimeter.

Answers will vary. Example:



$A = 4\ in^2$

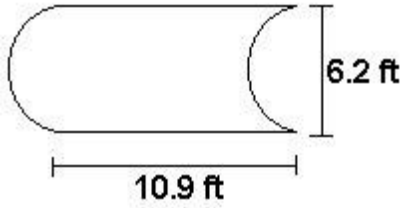
$P = 8\ in.$



$A = 4\ in^2$ $P = 10\ in.$

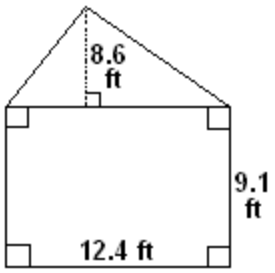
Find the areas of the figures below:

23.



67.58 ft^2

24.

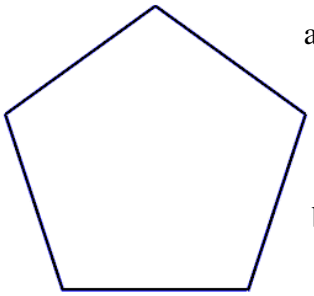


166.16 ft^2

25. A man needs to repaint the two triangular gables on his house. Each gable is 35 ft long and 14 ft high. How many gallons of paint will he need if a gallon of paint covers 100 sq. ft.? (You must buy whole gallons, so round your answer to the nearest whole gallon.)

5 gallons

26. The figure below is a regular pentagon.



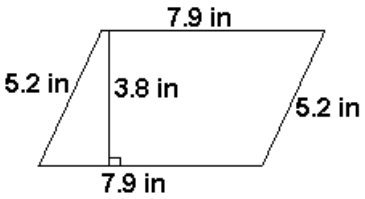
a) Find the sum of the interior angles.

540^o

b) Find the measure of one interior angle.

108^o

27. Find the perimeter of the figure below.



26.2 in.

28. Jose plans to fence his yard for his new dog. The yard is a 60 ft by 90 ft rectangle. Four feet of the rectangular yard is going to be used as a gate instead of for fencing, and the gate costs $24.99. Fencing costs $35.99 per 10 ft section. What is the cost of the fence and gate together?

$1090.29

29. The striking circle in a field hockey field is a semicircle measured out 16 yards from the goal line. Find the area of one semicircle in the field hockey field.

402.12 yd^2

30. A walkway 4 meters wide is constructed along the outside edge of a square courtyard. If the perimeter of the courtyard is 200 meters and fencing costs $12.00 a meter, what is the cost of the fencing that will be needed along the outer edge of the walkway to completely encircle the courtyard and walkway?

$2784.00