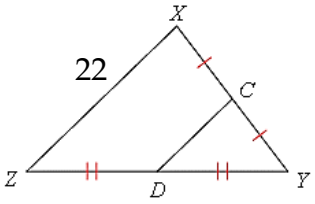
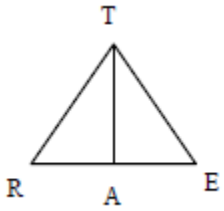
Math 3 Unit 4 Review Name: _____

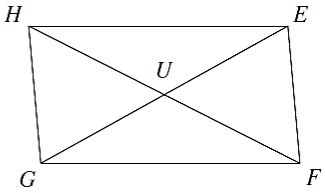
_____ 1. Find CD



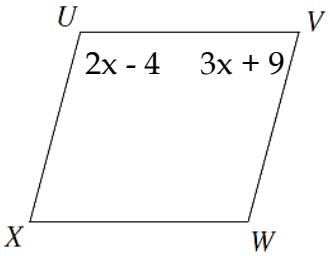
_____ 2. Given ΔRTE, TA *is an angle bisector*. The $m\measuredangle RTA = (3x - 8)°$ *and* $m\measuredangle ETA = (5x - 20)°$. *Find the value of* x.



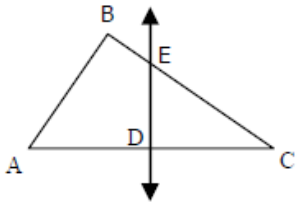
_____ 3. Given HEFG is a parallelogram, UH = x+25 and UF = 4x-2. Find HF.



_____ 4. Given ▱UVXW, find m∠W.

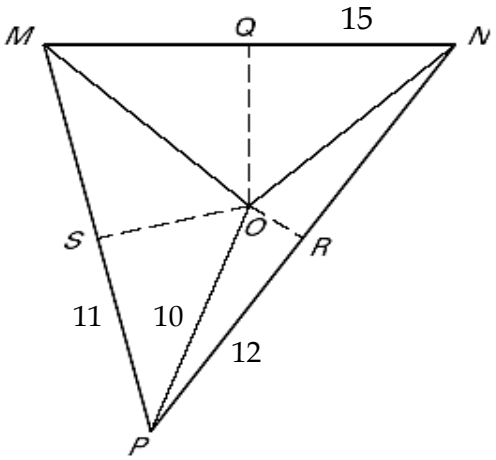


_____ 5. Given ED is a perpendicular bisector, and AD=6y+6 and DC= 9y-12, Find the length of AD.



_____6. Given a **triangular prism** with a base of 5in, a height of 10in, and a length of 8in, and a weight of 40kg, find the **density** of the figure.

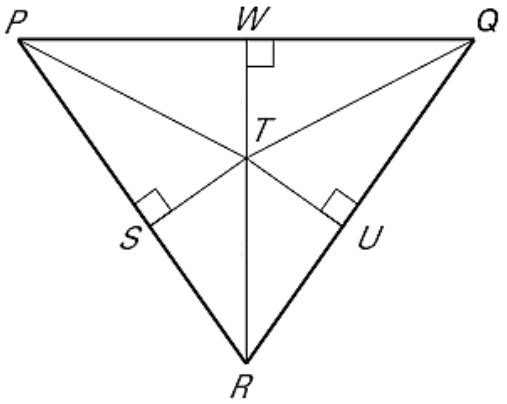
In the diagram, the perpendicular bisectors (shown with dashed segments) of ΔMNP meet at point O—the *circumcenter*. Find the indicated measure.



7. MO = _____ 8. MN = _____ 9. NR = _____

10. SM = _____ 11. m∠MSO = _____

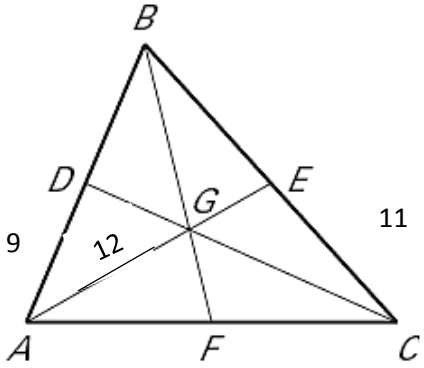
Point *T* is the *incenter* of ΔPQR.



_____ 12. If WT = 10 and RT = 13, what is the value of UT?

_____ 13. If m∠PRQ = 84°, then what is the m∠PRT?

***Point G is* the *centroid* of ΔABC, AC = 20. Find the length of each segment.**



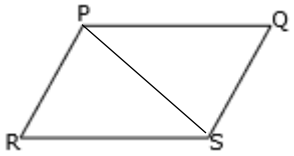
14. DB = _____ 15. GE = _____ 16. AE = _____

17. BA = _____ 18. BC = _____ 19. AF = _____

20. Complete the following proof.

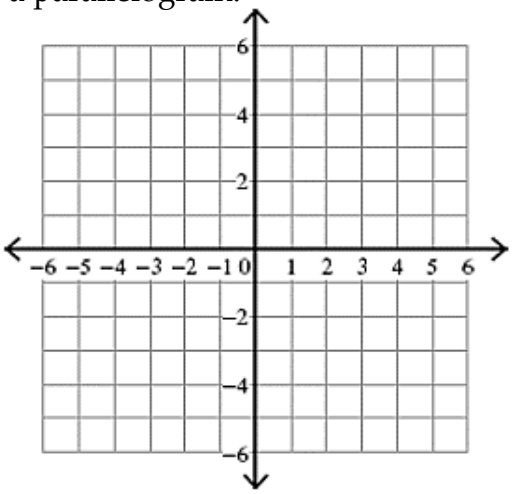
Given: $< QPS \cong < RSP, < QSP \cong < RPS$

Prove: PQSR is a parallelogram.



Statements	Reasons
1.	1.
2.	2. Reflexive Property
3. $\Delta PQS \cong \Delta SRP$	3.
4. $\overline{SQ} \cong \overline{RP}$	4.
5.	5. CPCTC
6. PQSR is a parallelogram	6.

21. Prove the quadrilateral with the coordinates R(0,4), S(-3,5), T(1,-1) and U(-2,0) is a parallelogram.



Since _____

_____.

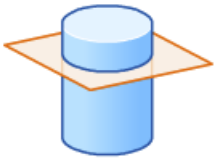
22. To completely cover a spherical ball, a ball company uses a total volume of $972\pi\ in^3$ of material. What is the maximum surface area the ball can have?

(Note: Surface area of a sphere = $4\pi r^2$. Volume of a sphere $=\frac{4}{3}\pi r^3$.)

23. Classify the shape created by the cross section.

a. 

_____

b. 

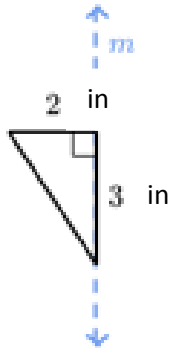
_____

c. 

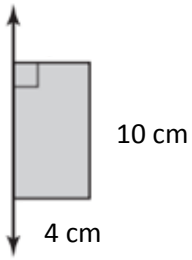
_____

24. Name the 3D shape that will result from **rotating** the 2D figure along the line, ***then*** find its volume. Round to the **hundredths** place.

a.



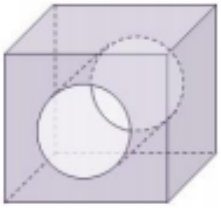
b.



Shape: _____ Volume: _____

Shape: _____ Volume: _____

25. A toy manufacture has designed a new piece for use in building models. It is a cube with side length 5 inches and it has a 2-inch diameter circular hole cut through the middle.



a. What is the volume of a single toy? Round to the hundredths place.

b. If the plastic used to create the piece costs $0.11 per cubic inch, how much would one toy cost?