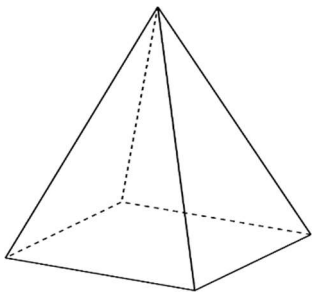
Name _____ Date _____
Mr. Schlansky Geometry

Volume and 3 Dimensional Objects Review Sheet

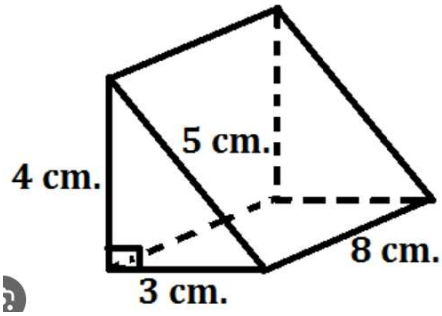
1. A regular pyramid has a square base with an edge length of 14 and an altitude of 24. Find its volume.



2. Find the volume of a cone with a slant height of 12 in and a diameter of 8 in rounded to the nearest hundredth.

Find the volume of the shapes below:

3.



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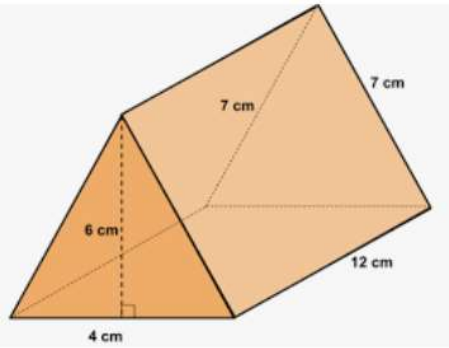
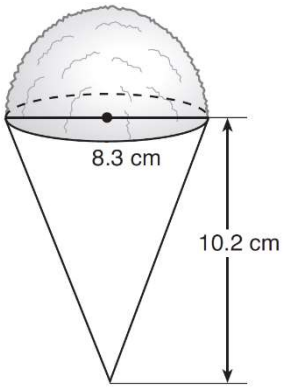


Find the volume of the following objects rounded to the *nearest tenth*:

5.



6.

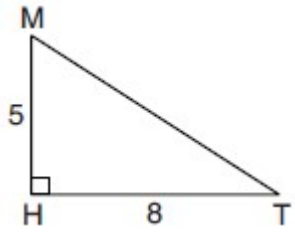
7. A plane intersects a hexagonal prism. The plane is perpendicular to the base of the prism. Which two-dimensional figure is the cross section of the plane intersecting the prism?

1) triangle
2) trapezoid
3) hexagon
4) rectangle

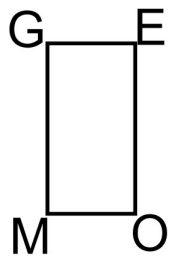
8. The cross section of a regular pyramid contains the altitude of the pyramid. The shape of this cross section is a

1) circle
2) square
3) triangle
4) rectangle

9. In right triangle MTH shown below, $m\angle H = 90°$, $HT = 8$, and $HM = 5$. Determine and state, to the *nearest tenth*, the volume of the three-dimensional solid formed by rotating $\triangle MTH$ continuously around $\overline{MH}$.



10. In rectangle GEOM, GE = 4 and EO = 10. Find the volume of the three-dimensional object create by continuously rotating rectangle GEOM about EO in terms of π.



11. The base of a pyramid is a rectangle with a width of 6 cm and a length of 8 cm. Find, in centimeters, the height of the pyramid if the volume is $288\ \text{cm}^3$.
1) 6
2) 8
3) 14
4) 24

12. Find the radius of a sphere with a volume of 576π cubic inches. Find the answer to the nearest tenth of an inch.
1) 4.9
2) 15.1
3) 9.2
4) 7.6

13. A brick that weighs 1824 grams has dimensions that measure 4 cm by 3 cm by 8 cm. To the nearest tenth, what is the density of the brick?

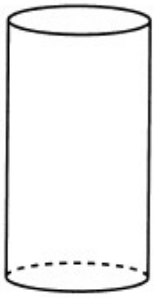
14. A metal sphere that has a mass of 8024 grams has a diameter of 10 cm. To the nearest tenth, what is the density of the sphere?

15. Cylindrical bricks are needed to fill a hole in a homeowner's backyard. Each brick is to have a diameter of 4 cm and a height of 2 cm. The weight of the concrete that the brick is going to be made from is 2.1 ounces per cubic centimeter. If the concrete costs $.14 per ounce, how much would it cost to purchase four bricks? Round your answer to the *nearest cent*.

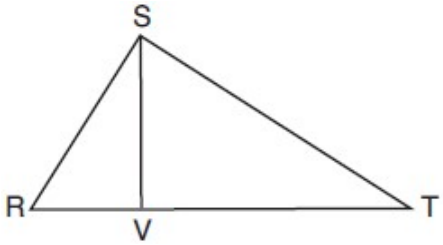
16. Walter wants to make candles in the shape of a cone for his new candle business. Each candle will have a height of 8 inches and a diameter of 3 inches.
Walter goes to a hobby store to buy the wax for his candles. The wax costs $0.10 per ounce. If the weight of the wax is 0.52 ounce per cubic inch, how much will it cost Walter to buy the wax for 100 candles?

17. A sandbox in the shape of a rectangular prism has a length of 43 inches and a width of 30 inches. Jack uses bags of sand to fill the sandbox to a depth of 9 inches. Each bag of sand has a volume of 0.5 cubic foot. What is the minimum number of bags of sand that must be purchased to fill the sandbox?

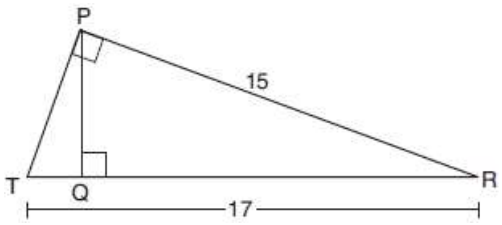
18. A concrete footing is a cylinder that is placed in the ground to support a building structure. The cylinder is 4 feet tall and 12 inches in diameter. A contractor is installing 10 footings. If a bag of concrete mix makes $\frac{2}{3}$ of a cubic foot of concrete, determine and state the minimum number of bags of concrete mix needed to make all 10 footings.



19. In right triangle *RST* below, altitude $\overline{SV}$ is drawn to hypotenuse $\overline{RT}$. If $RV = 4.1$ and $TV = 10.2$, what is the length of $\overline{ST}$, to the *nearest tenth*?

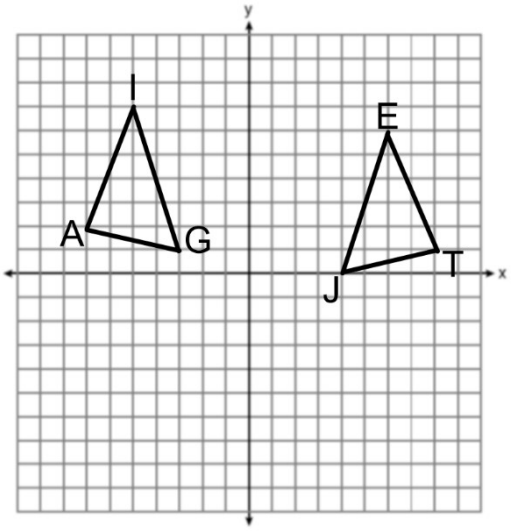


20. In right triangle *PRT*, $m\angle P = 90°$, altitude $\overline{PQ}$ is drawn to hypotenuse $\overline{RT}$, $RT = 17$, and $PR = 15$. Determine and state, to the *nearest tenth*, the length of $\overline{RQ}$.

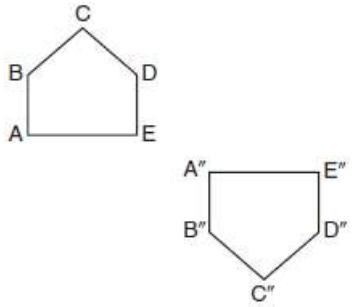


21. Which of the following sequences of rigid motions would map ΔGIA onto ΔJET?

1) point reflection through (0.5,0.5) followed by a translation 11 right and 1 down
2) reflection over the y-axis followed by a translation right 1 and down 1
3) rotation of 90 degrees clockwise centered at the origin followed by a translation right 1 and up 1
4) reflection over $x=1$ followed by a reflection over the x-axis



22. Identify which sequence of transformations could map pentagon *ABCDE* onto pentagon *A"B"C"D"E"*, as shown below.



1) dilation followed by a rotation
2) translation followed by a rotation
3) line reflection followed by a translation
4) line reflection followed by a line reflection

Find the area of the following triangles:

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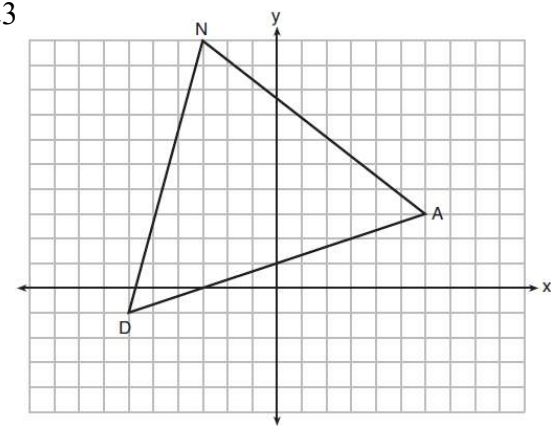

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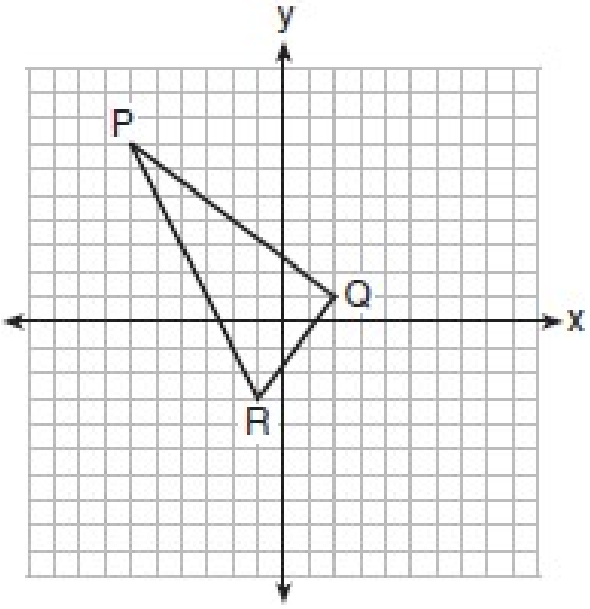

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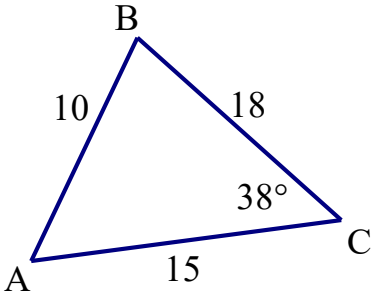

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