Write me a paragraph about what you liked about D-week/ what you did this weekend

Homework 10.2 Solutions

1. 35.74 in^2

2. With 5 added slats and 6 shelves:162 books

(1/3 for 144 and 2/3 for 156)

With 6 added slats and 7 shelves: 168 books

3. 12 x 12 tiles are the most area for the smallest price, so use them first. You need $64\ ^2/_9$ of them. Only buying 64 tiles leaves 32 in^2 left to tile, which can be done with one 6 x 6 tile for ~~$0.79~~ 1.50, which means you pay ~~$121.11~~ $121.82.

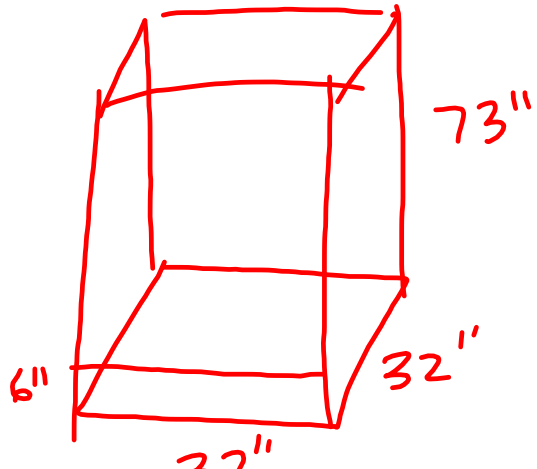
4. Texas has a higher population density

5. Cedar plank: 0.0133 lbs/in^3

Oregon pine board: 0.0192 lbs/in^3

So the Oregon pine is more dense.

3)



$2(1024\ in^2) + 3(2336\ in^2) + 192\ in^2$

$= 9248\ in^2$

$9216\ in^2$

$64.\overline{2}$

64 | 12×12 | 1 | 6×6 | 8 | 2×2

$32\ in^2$ | 12×12 | 1.88 | 6×6 | 1.50 | 2×2 | 6.00

$12 \times 12 = 144\ in^2$ $1.88

$6 \times 6 = 36\ in^2$ $1.50

$2 \times 2 = 4\ in^2$ $.75

64 12×12, 1 6×6 = $121.82

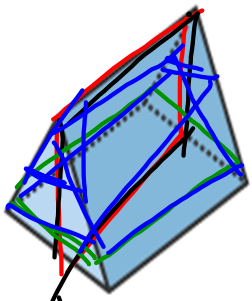
Today's Objectives: Review for Unit 10 Test!

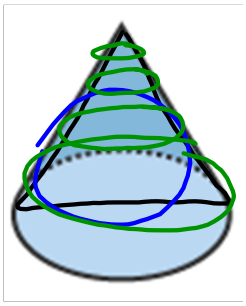
Describe the 2 dimensional cross section described from the 3 dimensional shape. Perform this for both shapes.

a) Vertical cut through vertex.

b) Horizontal cut

c) Diagonal cut NOT through base.





a) triangle/ rectangle

b) rectangle

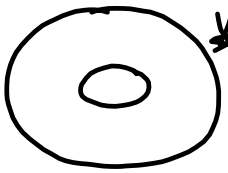
c) rectangle, trapezoid triangle, quadrilateral

a) triangle

b) circle

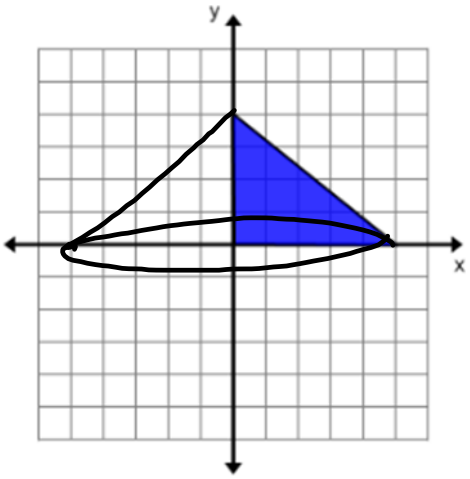
c) ellipse/ egg/oval

Describe the cross section if I cut the bagel to the right in half horizontally? What if I slice it vertically?

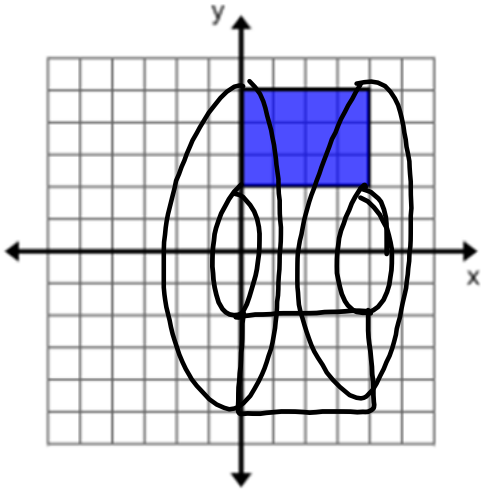
a)  * washer circle w/hole in middle

b) two circles 

Draw the 3 dimensional shape created by rotating the shape as described.



Around the y-axis



Around the x-axis

You have decided to re-shingle a roof. The roof is 75 ft. X 40 ft. There is a chimney that you will need to go around with dimensions of 3 ft. X 7 ft. The size of a each shingle is 8 in. X 12 in. How many shingles will you need to complete the roof?

900in x 480in

Roof: $900\text{ in} \times 480\text{ in} = 432\,000\text{ in}^2$

Chimney: $36\text{ in} \times 84\text{ in} = -3024\text{ in}^2$

Shingle: $8\text{ in} \times 12\text{ in} = 96\text{ in}^2$

$428\,976\text{ in}^2$

96 in^2

4468.5

4469 shingles

Below is a table showing the population and area of each state. Which state has the highest population density?

CA: $\frac{38{,}332{,}521 \text{ people}}{163\,695.57 \text{ mi}^2} = 234.17 \text{ people/mi}^2$

NY: 366.2 people/mi^2

DC: 9459 people/mi^2

NJ: 1020 people/mi

Lake Powell has a water surface of 254 square miles. How many fish would you have to stock in the lake in order for their fish population densities to be 800 fish per square mile?

$254 \text{ mi}^2 \left(\frac{800 \text{ fish}}{\text{mi}^2}\right) = 203{,}200 \text{ fish}$

A team of ecologists is tracking mountain lions throughout California. They count 4543 mountain lions in the entire state. The area of California is $423{,}970\ km^2$. What is the population density of mountain lions in California?

$$\frac{4543 \text{ lions}}{423{,}970\ km^2} = .011 \text{ lions}/km^2$$

$$\frac{\text{stuff}}{\text{space}} = \frac{\text{lions}}{km^2}$$

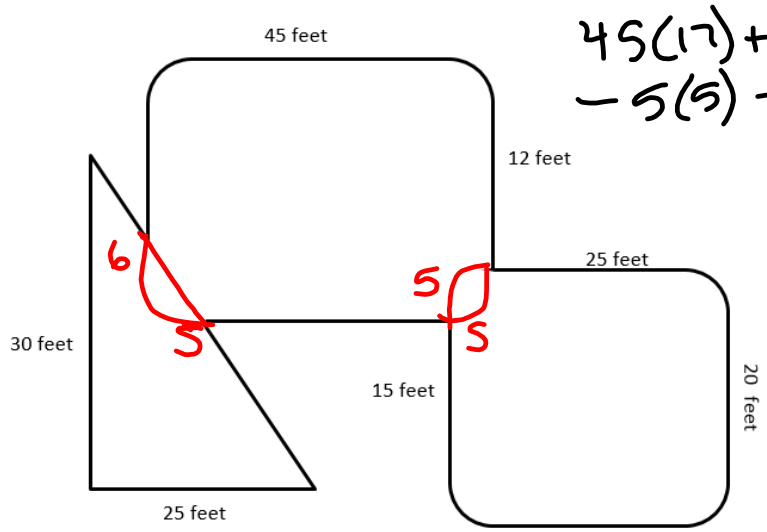
. The volume of a solid gold statue can be approximated as $1000\ cm^3$. The density of gold is about $20\ g/cm^3$. What is the mass of the statue?

$$1000\ cm^3 \left(\frac{20\ g}{cm^3}\right) = 20{,}000\ g$$

$$20 \text{ kg}$$

$$\frac{20 \text{ "stuff" } g}{1 \text{ "space" } cm^3}$$

You are responsible for a new children's playground. You are trying to decide what material and how much for the ground cover. Research different options and determine what you believe would work best. The layout for the playground is shown.



$45(17)+30(20)+\frac{1}{2}(30)(25$
$-5(5)-\frac{1}{2}(6)(5)$
$\approx 1700 ft^2$