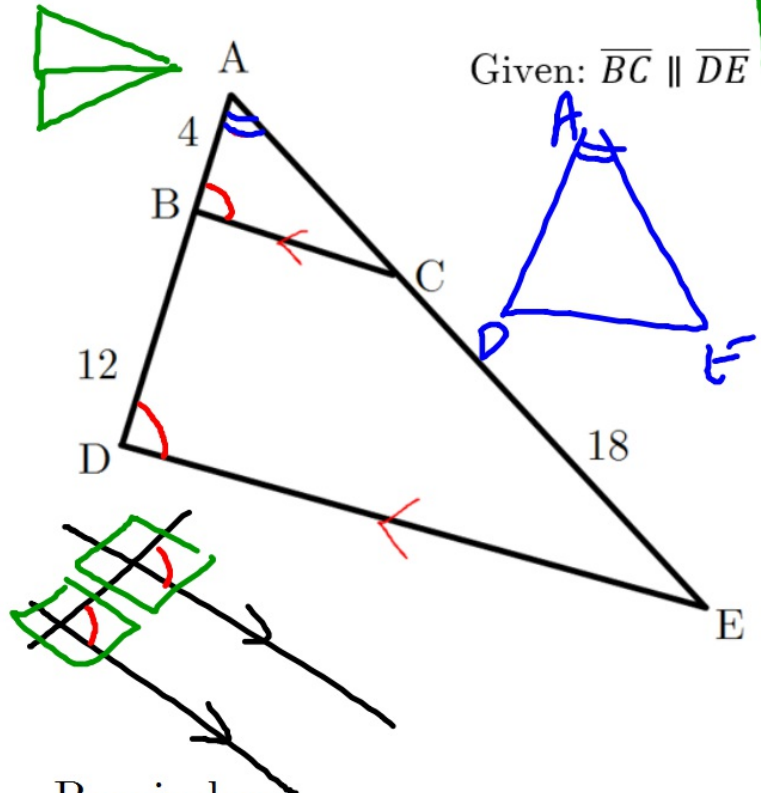


Good afternoon: staple warm up to notes, then complete the proof

bit.ly/formulas17



Given: $\overline{BC} \parallel \overline{DE}$ Prove: $\triangle ABC \sim \triangle ADE$

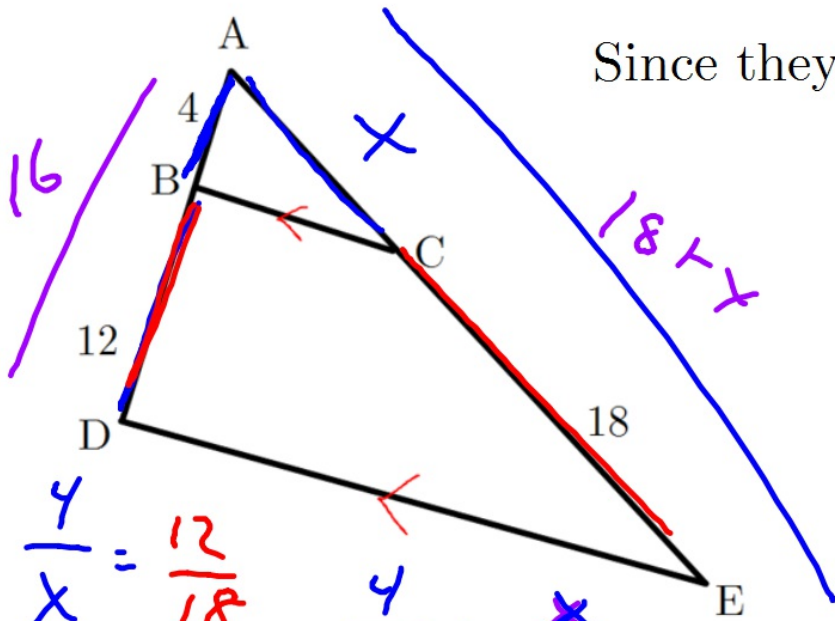
Statements	Reasons
1. $\overline{BC} \parallel \overline{DE}$	1. Given
2. $\angle ABC \cong \angle ADE$ $\angle BAC \cong \angle DAE$	2. Corresponding Angles
3. $\angle DAE \cong \angle BAC$	3. Reflexive Property
4. $\triangle ABC \sim \triangle ADE$	4. AA~

Reminders:

online EOC is 4/27 and 28
know all formulas on quizlet by then!

tutoring tomorrow
retakes available in DS Tues/Thurs/Fr

Since they're similar....find AC's length.



$$\frac{4}{12} = \frac{x}{18}$$

$$\frac{4}{x} = \frac{12}{18}$$

$$\frac{4}{16} = \frac{x}{18+x}$$

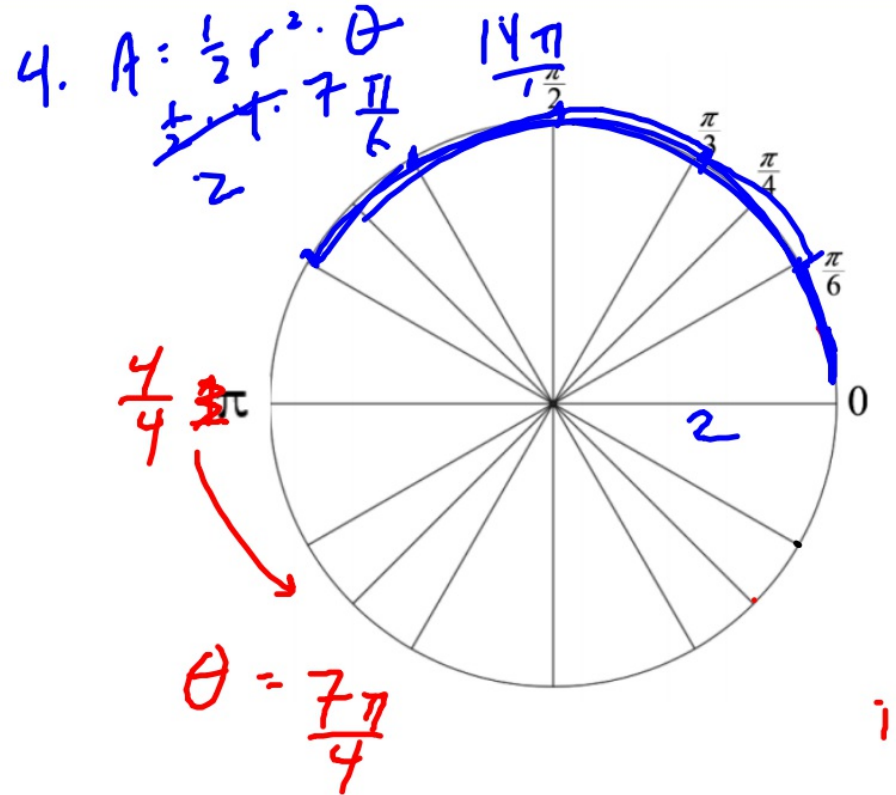
$x=6$

numerical answers to hw:

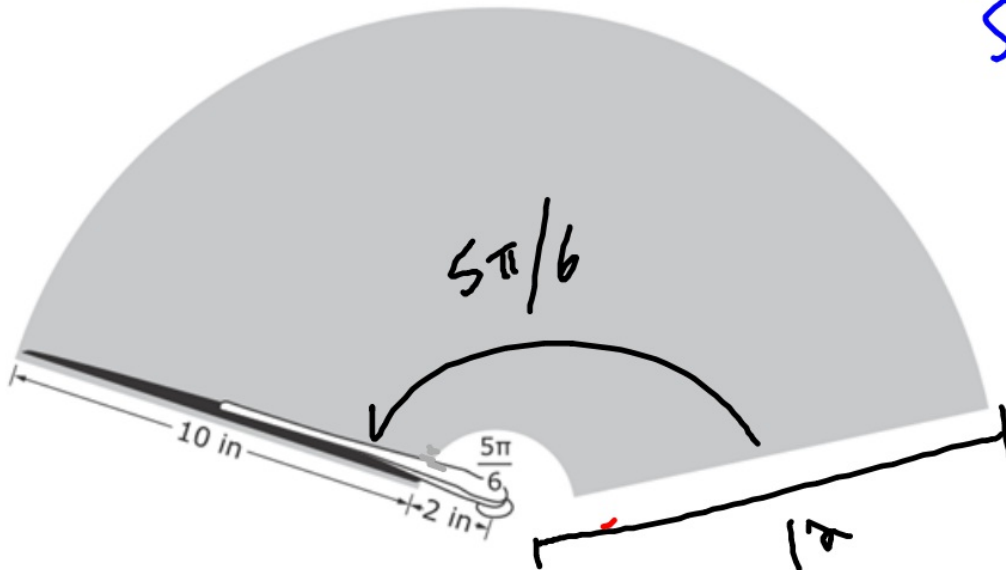
- | | |
|-------------|---------------|
| 1. $5\pi/3$ | 6. 12π |
| 2. $8\pi/3$ | 7. $7\pi/2$ |
| 3. $4\pi/3$ | 8. $33\pi/4$ |
| 4. $7\pi/3$ | 9. 5π |
| 5. $9\pi/2$ | 10. $10\pi/3$ |

Arc Length: $r \cdot \theta$

Sector Area: $\frac{1}{2} r^2 \cdot \theta$



The windshield wiper of a car rotates through an angle of measure $\frac{5\pi}{6}$ radians, as shown.



The shaded section of the diagram represents the area cleared by the 10-inch blade of the windshield wiper as it moves from one side to the other. Approximately what is the area cleared by the blade of the windshield wiper?

- A. 125 in²
- B. 183 in² ←
- C. 367 in²
- D. 790 in²

$$\begin{aligned} \text{Area Sector} &= \frac{1}{2} r^2 \cdot \theta \\ &= \frac{1}{2} \cdot 12^2 \cdot \left(\frac{5\pi}{6}\right) \end{aligned}$$

$$60\pi \approx 188.5$$

$$\frac{1}{2} \cdot 2^2 \cdot \left(\frac{5\pi}{6}\right)$$

$$\frac{10\pi}{6} - \frac{5\pi}{6} \approx 5.23$$

Cross-sections and Revolved Shapes

NOTES

What is a prism? What is a pyramid?

Write the best definition you can for each.

A prism is a solid with two congruent, parallel faces (bases) connected by parallelograms, usually rectangles.

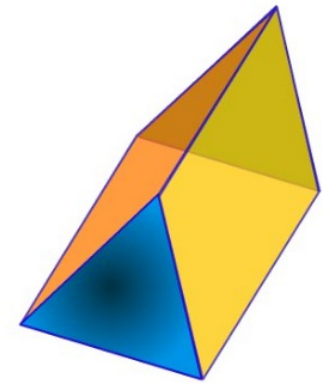
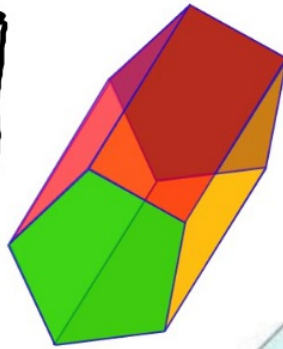
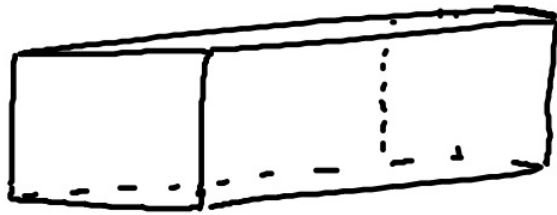


Figure 1

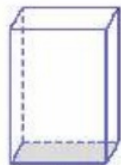
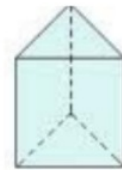
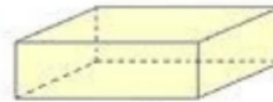


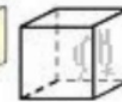
Figure 2



Triangular Prism



Rectangular Prism



Cube

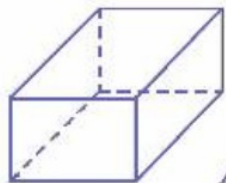


Figure 3

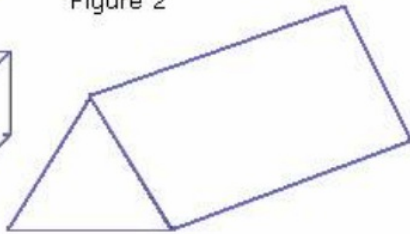


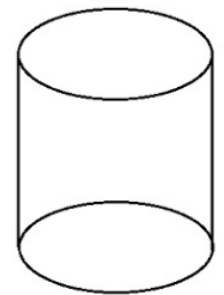
Figure 4



Pentagonal Prism

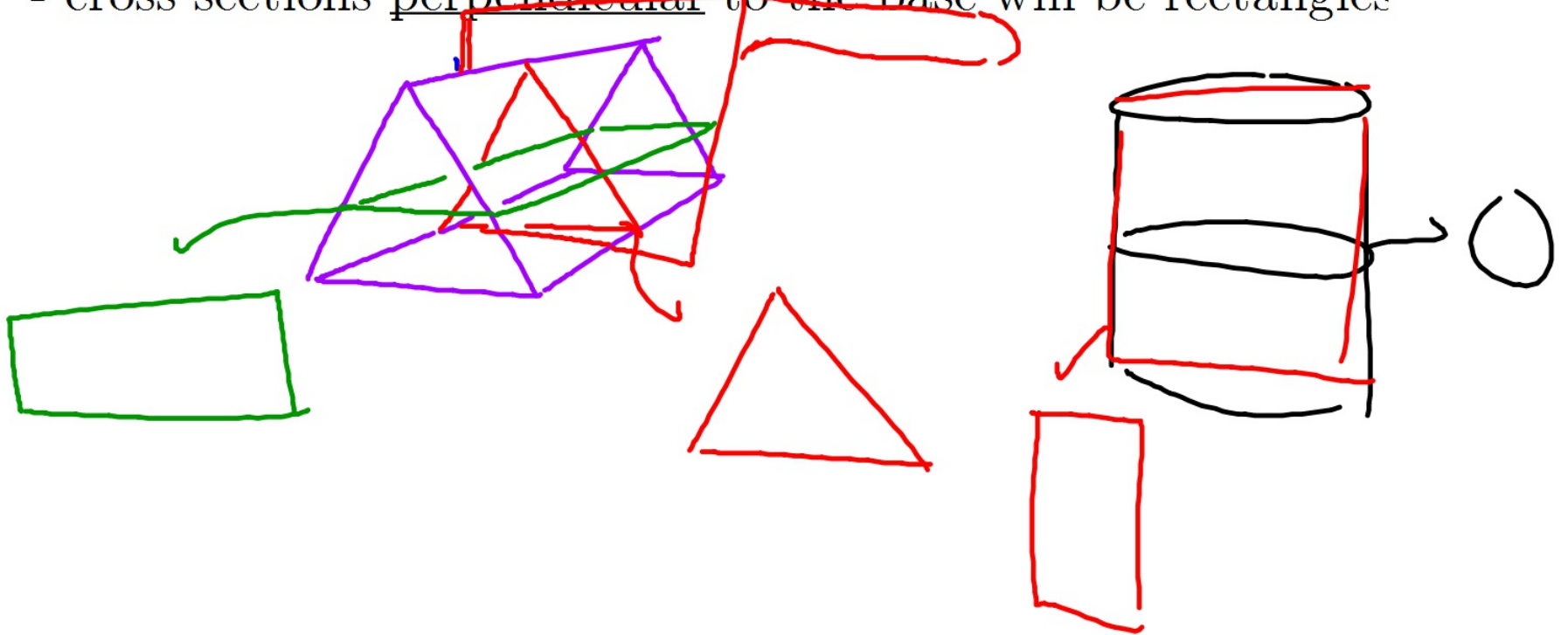


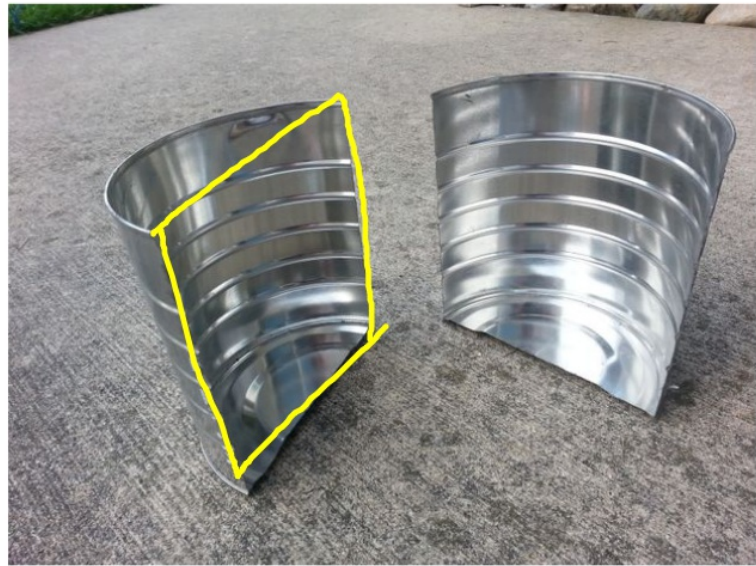
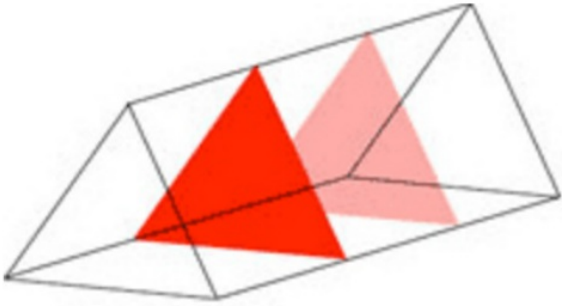
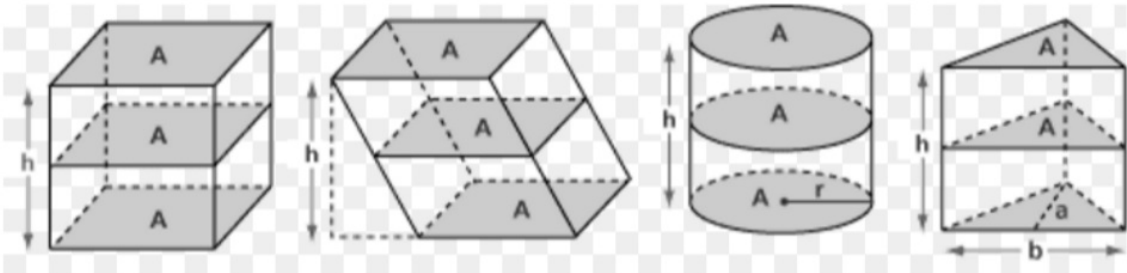
Hexagonal Prism



Prisms:

- cross sections parallel to the base will be congruent to the base
- cross sections perpendicular to the base will be rectangles



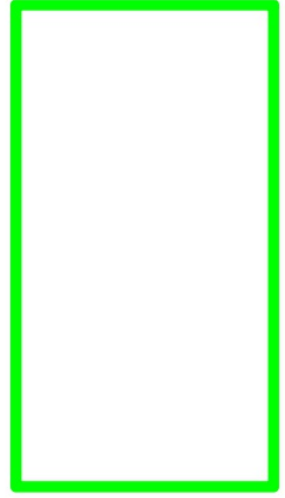
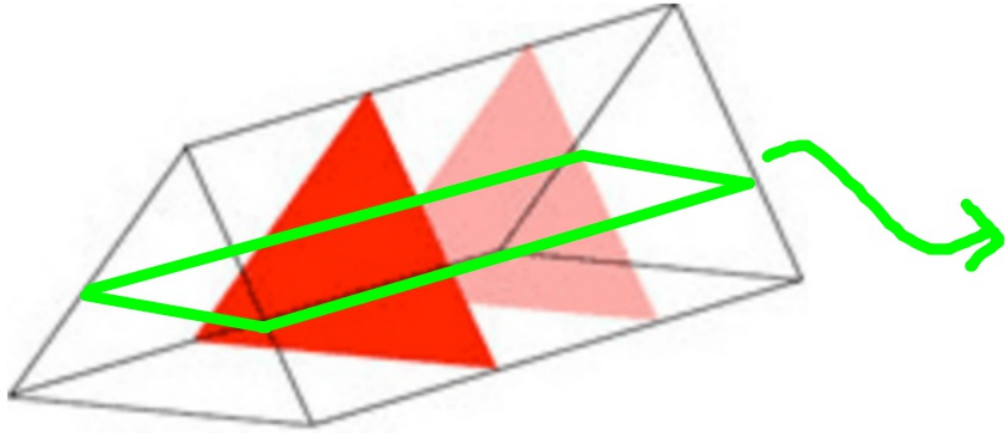




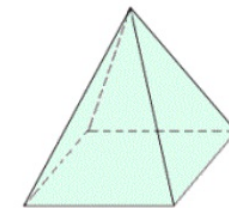
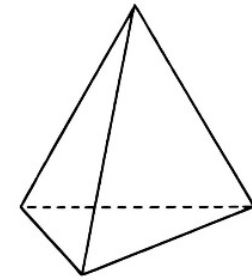
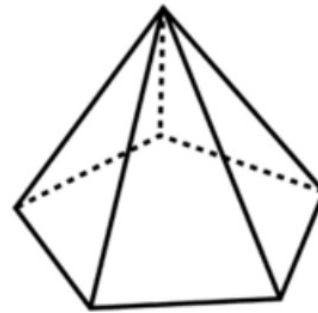
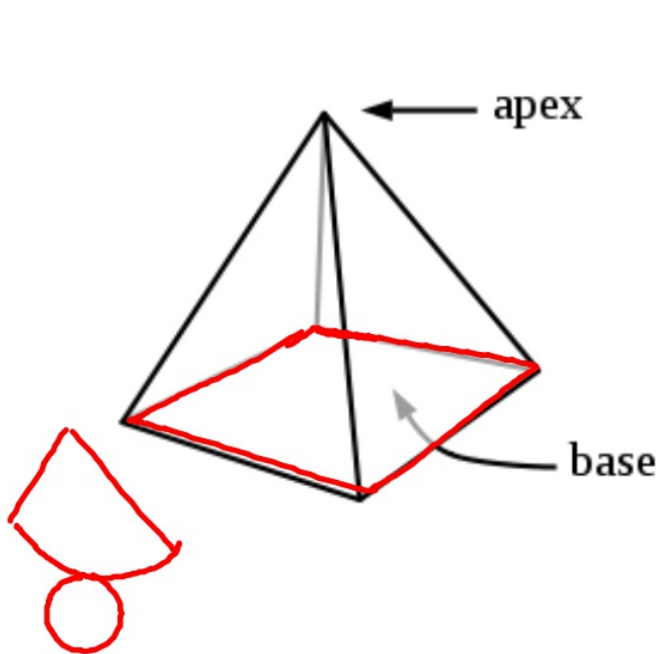
dgwdsd.en.alibaba.com



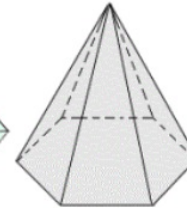
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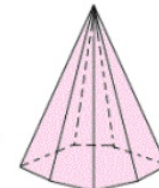
Pyramids have a 2D shape for a base and triangular faces that connect at an apex above the base.



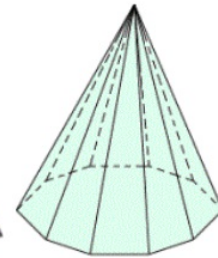
rectangular pyramid



hexagonal pyramid



heptagonal pyramid

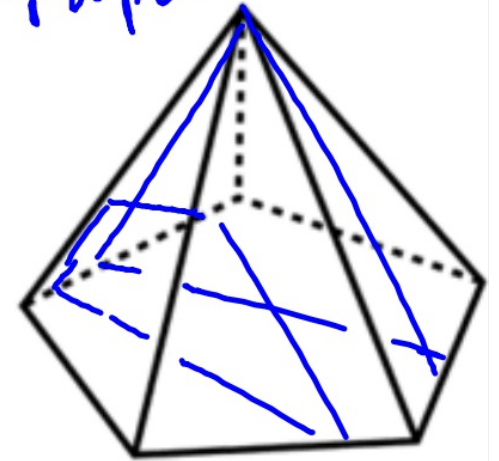
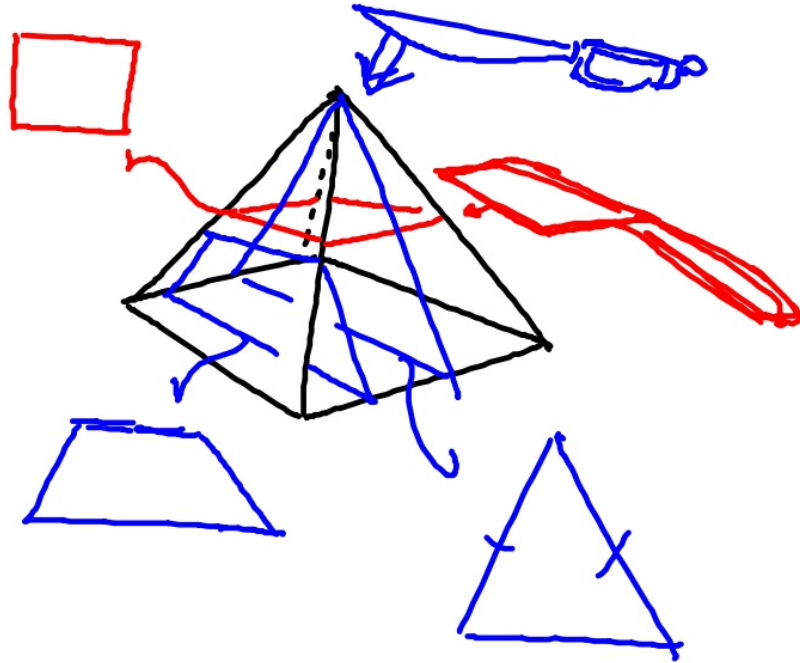


decagonal pyramid

<http://www.mathopenref.com/pyramid.html>

Cross sections parallel to the base are similar to the base

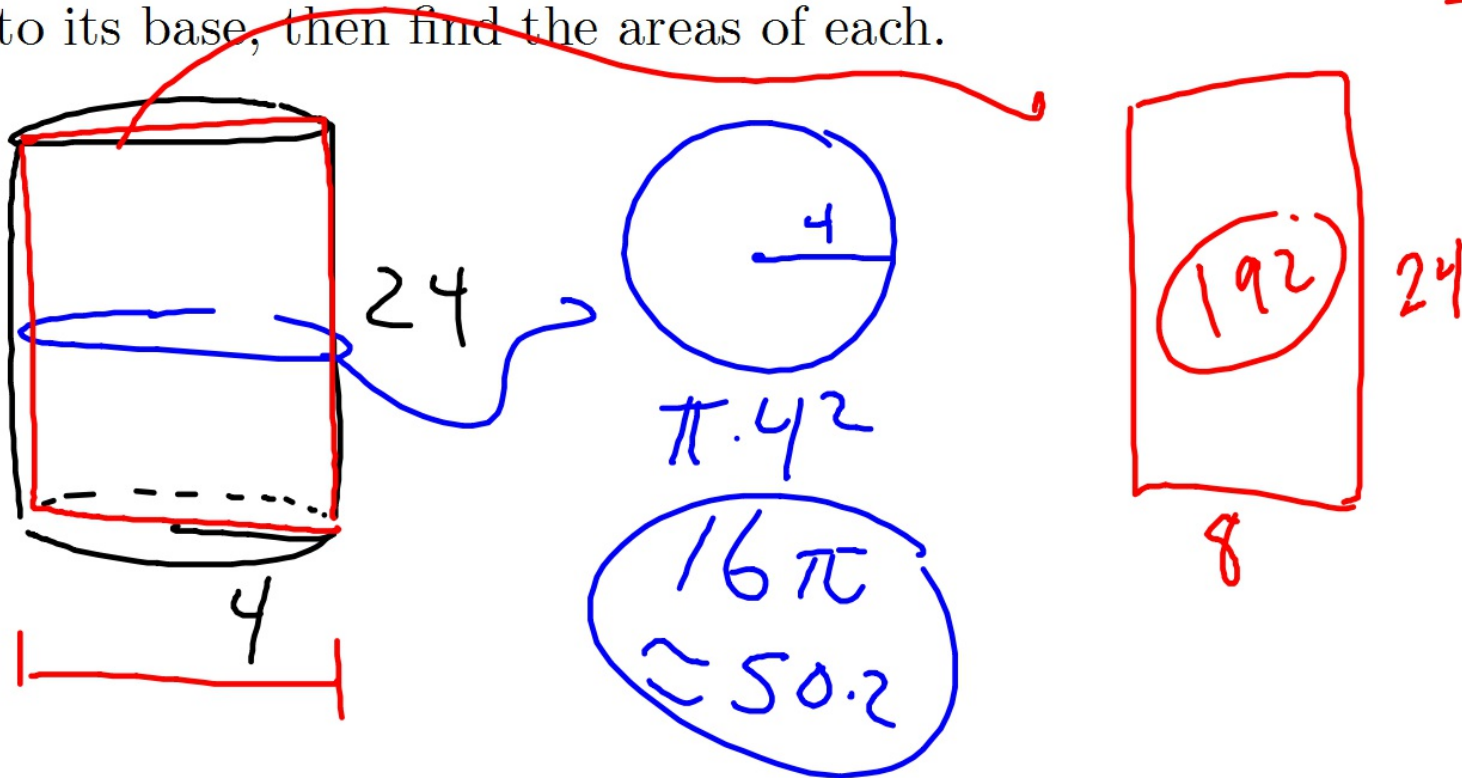
Cross sections perpendicular to the base are triangles or trapezoids



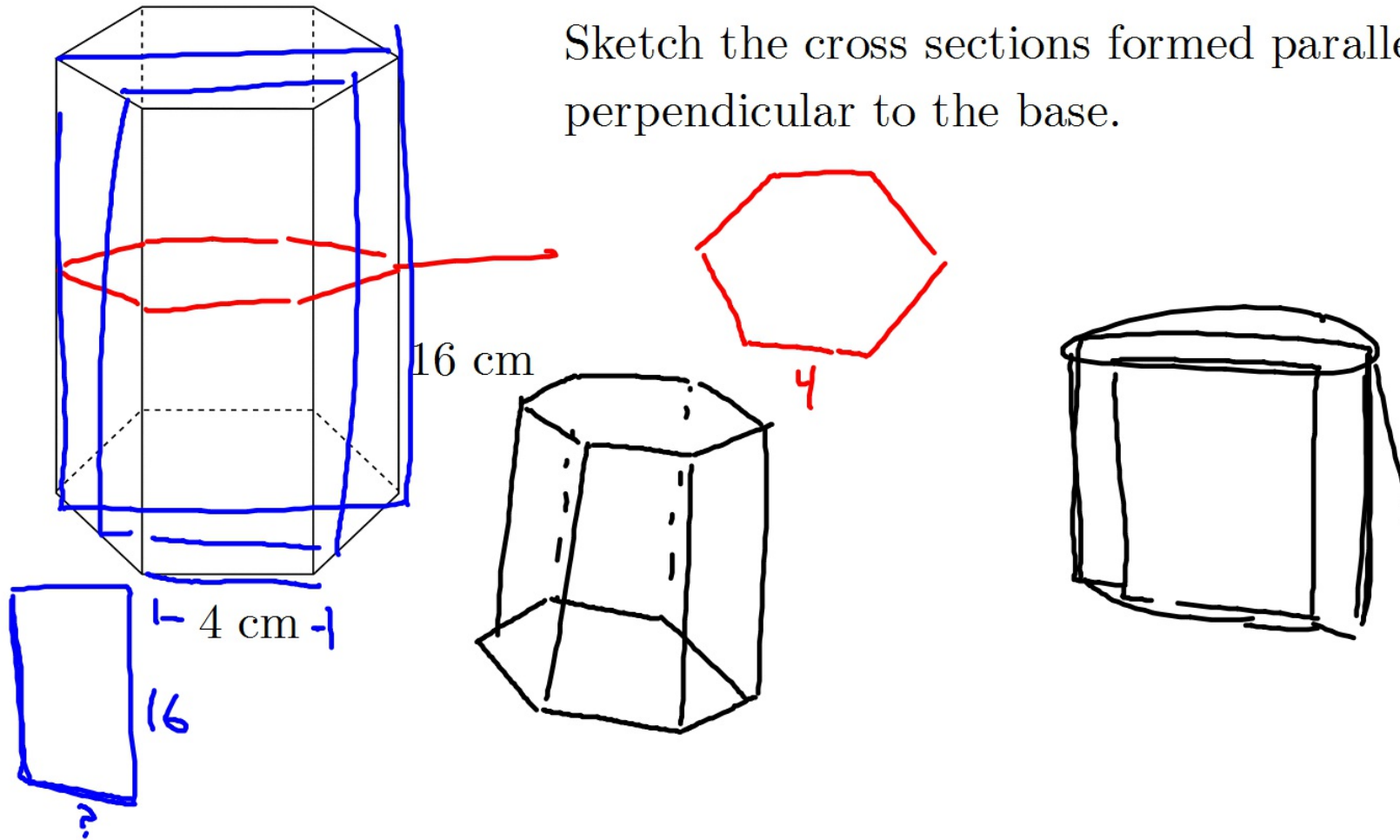
<https://tn.pbslearningmedia.org/resource/muen-math-g-slicing3dfigures/slicing-three-dimensional-figures/>

Practice:

A cylinder has a 4cm radius and a height 3 times longer than its base width. Sketch the cross sections formed parallel and perpendicular to its base, then find the areas of each.



Sketch the cross sections formed parallel and perpendicular to the base.

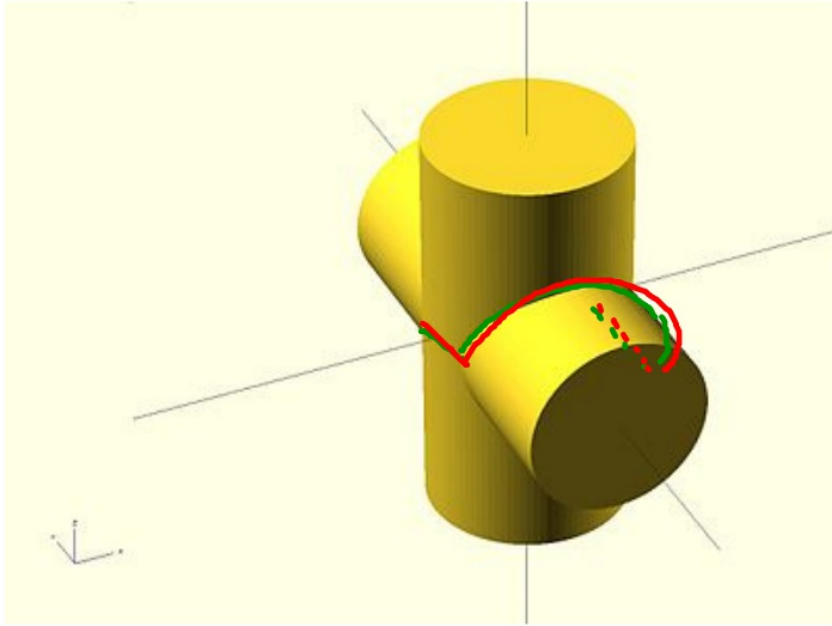


A cone has a height of 12cm and a volume of $100\pi \text{ cm}^3$
Find the area of a cross section of the cone perpendicular to its base
passing through its apex.

Quickwrite in your notebooks:

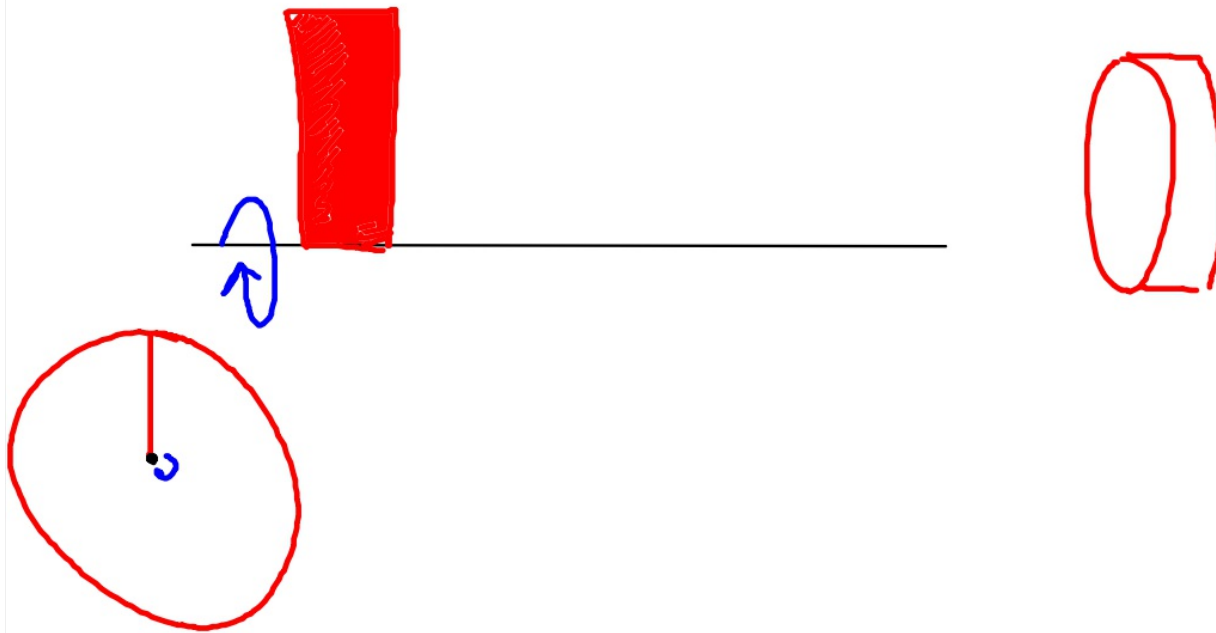
How are pyramids and prisms different in terms of their cross sections?

<https://www.youtube.com/watch?v=XwWJfe1SGMA>

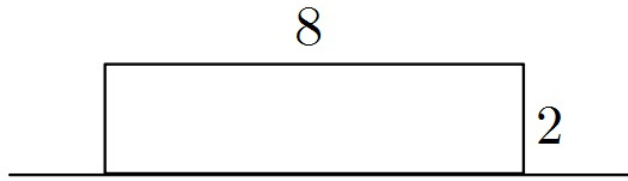


Revolution

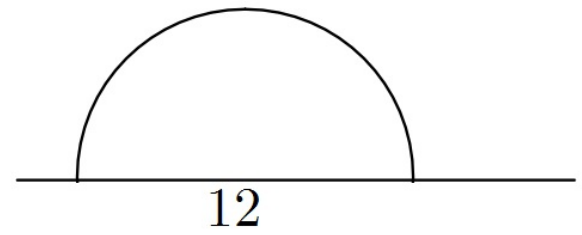
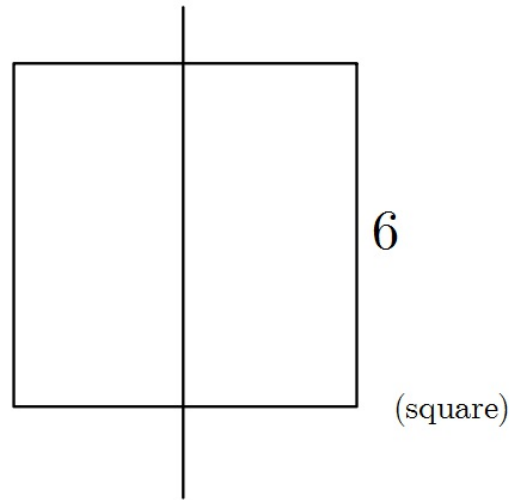
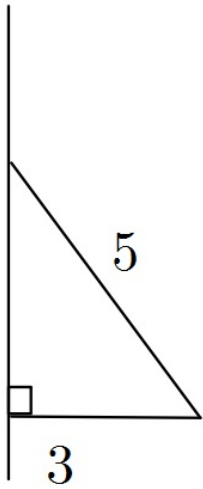
What happens when you revolve a flat shape around a line?

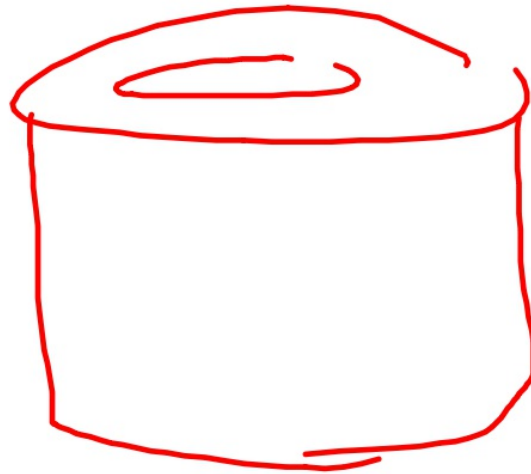
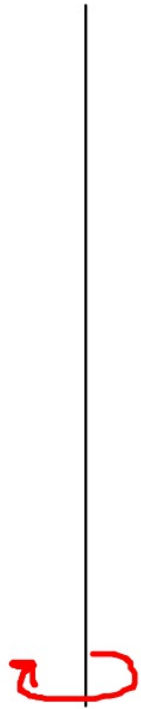


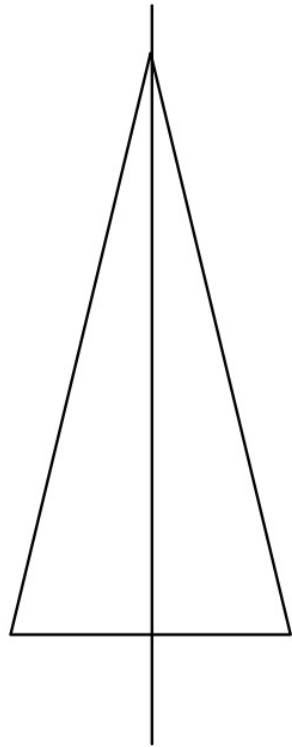


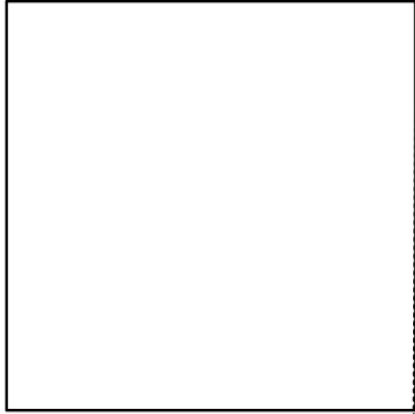


Sketch the solid formed
Then find the volume.

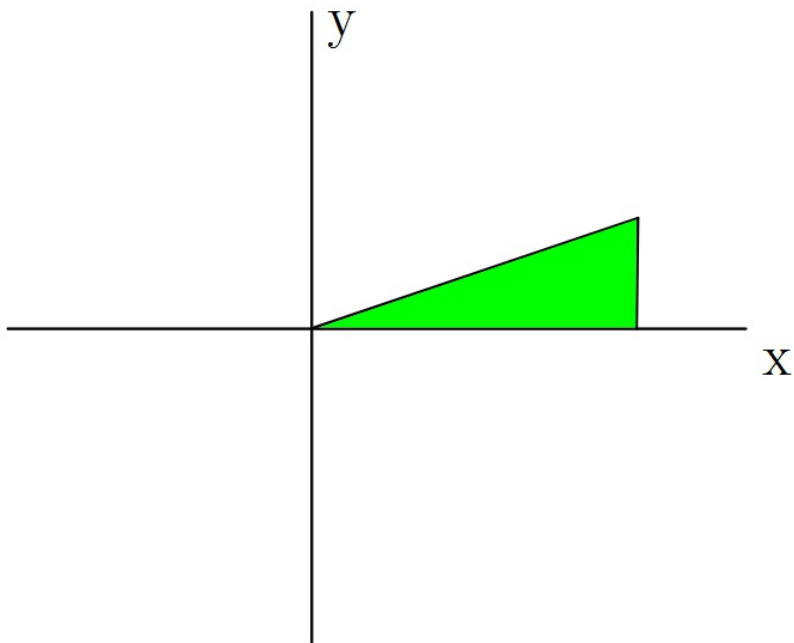








10



revolved around x-axis?

revolved around y-axis?

Connection to Calculus

HW:

p 494 #7-9, 13, 15



Peer Tutoring

please sit with your tutor-tutee

Doola-Arp

England-Alexander

George-Wilkinson

Evans-Eyrich

Stewart-Shea

Maynard-Lim

Narramore-Laudeman

Jenkins-Chastain

Escobar-Lewis

Russell-Utai

What to work on:

- look over test passed back yesterday

- sector area and arc length hw

- hw needed to retake circles test (see wall or PS for list)

