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THU

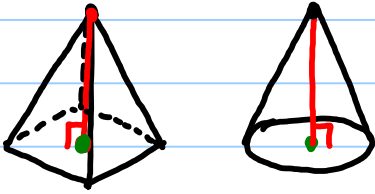
12.4 Surface Area of Pyramids & Cones

Right

Regular Polygon

$$A = \frac{1}{2}ap$$

Right Pyramid & Cones - altitude is perpendicular to the center of the base



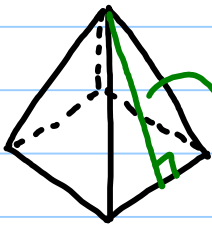
Oblique Pyramid & Cones



Regular Pyramid

→ Right pyramid & Regular Polygon Base

ex)



Lateral Faces - surfaces NOT counting the base.

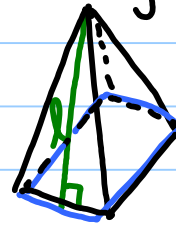
4 Lateral Faces (FL, FR, BL, BR)

Slant Height: l

Thm 12.7 - Lateral Area of a Regular Pyramid

$$L = \frac{1}{2}Pl$$

← slant height
← perimeter



Thm 12.8 - Surface Area of a Regular Pyramid

$$S = \frac{1}{2}Pl + B$$

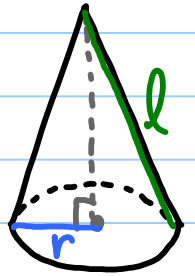
← base
← slant height
← perimeter

Thm 12.9 - Lateral Area of a ^{Right} Cone

$$L = \frac{1}{2} (2\pi r \cdot l) \rightarrow L = \pi r \cdot l$$

Circumference radius

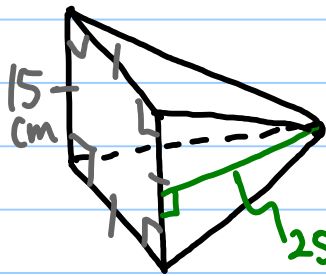
slant height



Thm 12.10 - Surface Area of a Right Cone

$$L = \pi r l + \pi r^2$$

ex 1) Find the lateral & surface area of the square pyramid.



$$L = \frac{1}{2} P l$$

$$\frac{1}{2} (15 \cdot 4) 25$$

$$= 750 \text{ cm}^2$$

$$S = \frac{1}{2} P l + B$$

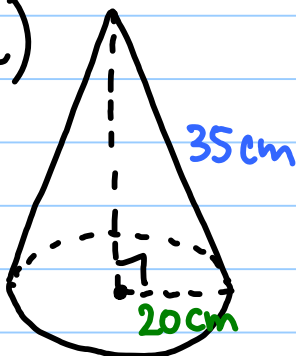
$$750 + 15(15)$$

$$750 + 225$$

$$= 975 \text{ cm}^2$$

square
 $A = s \cdot s$

ex 2)



Find the lateral area & surface area of the cone. (RTTN 100th)

$$L = \pi r l$$

$$= \pi (20)(35)$$

$$= 2199.11 \text{ cm}^2$$

$$S = \pi r l + \pi r^2$$

$$= \pi (20)(35) + \pi (20)^2$$

$$= 3455.75 \text{ cm}^2$$