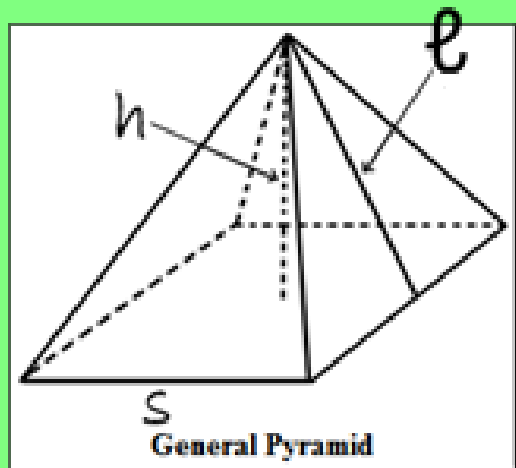


# Surface Area: Pyramids



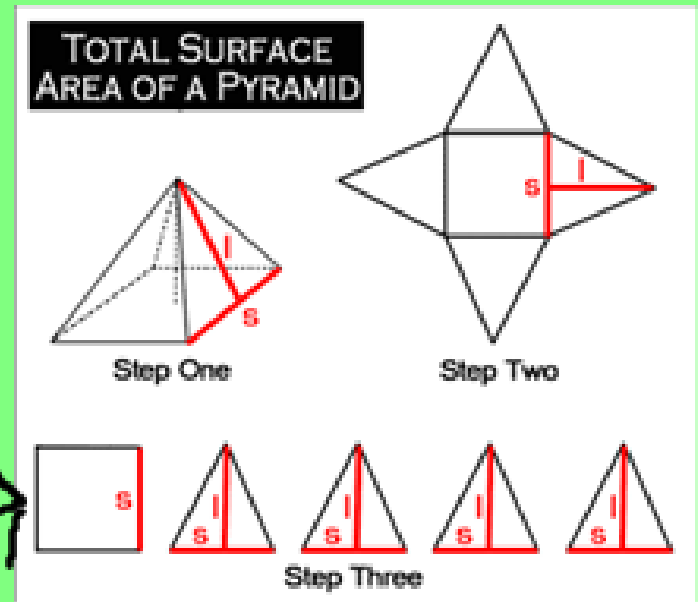
basic square pyramid

base:  $B$

lateral faces:  $1/2 Pl$

yields

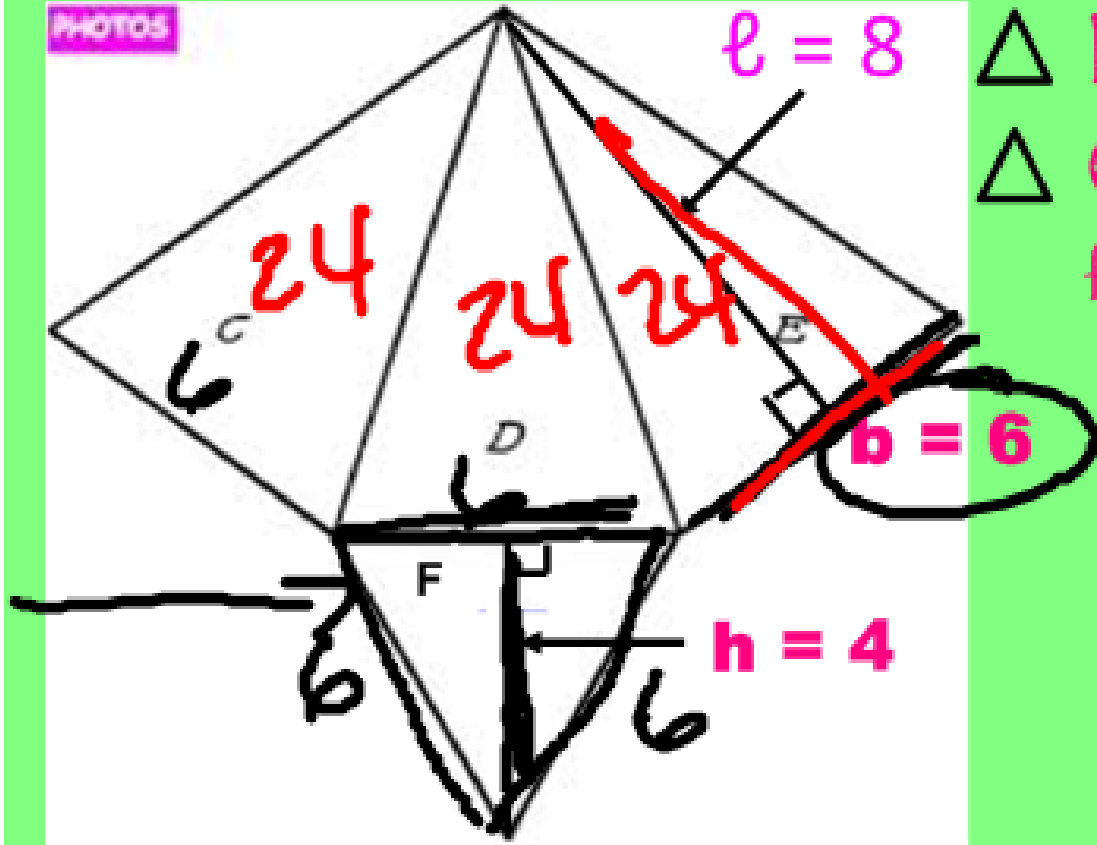
$$1/2 Pl + B$$



we must find the area of the base and then find the area of each triangular face

# A. Net of a triangular pyramid

PHOTOS



$\triangle F$  is the base

$\triangle C, D, \& E$  are the triangular faces.

$$B = \frac{6 \cdot 4}{2} = 12$$

$$P = 18$$

$$l = 8$$

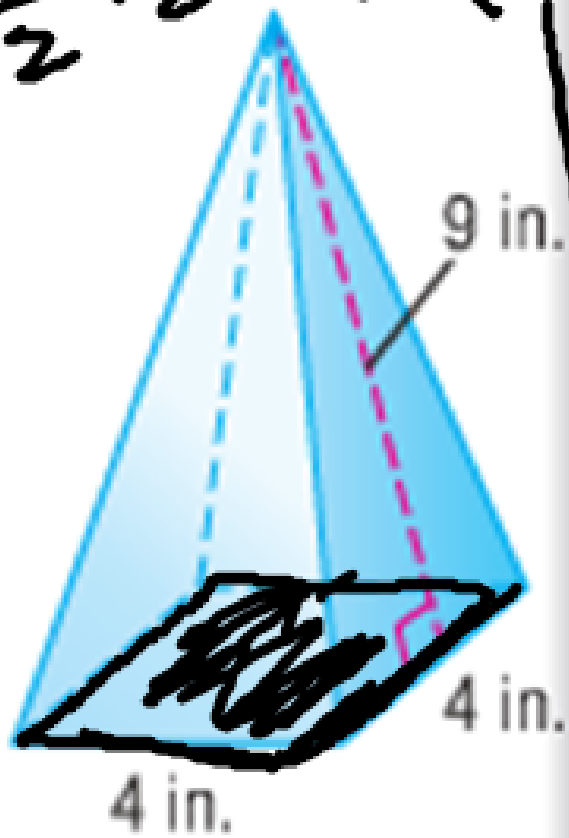
$$S.A. = \frac{1}{2} P l + B$$

$$S.A. = \frac{1}{2} (18)(8) + 12 = 72 + 12 = 84 u^2$$

B. Find the surface area

of the square pyramid.

$$\frac{4(9)}{2} = 18 (4)$$



perimeter  
of base

$$S.A. = \frac{1}{2}Pe + B$$

$$B = \frac{4(4) = 16$$

area  
of  
base

$$P = 16$$

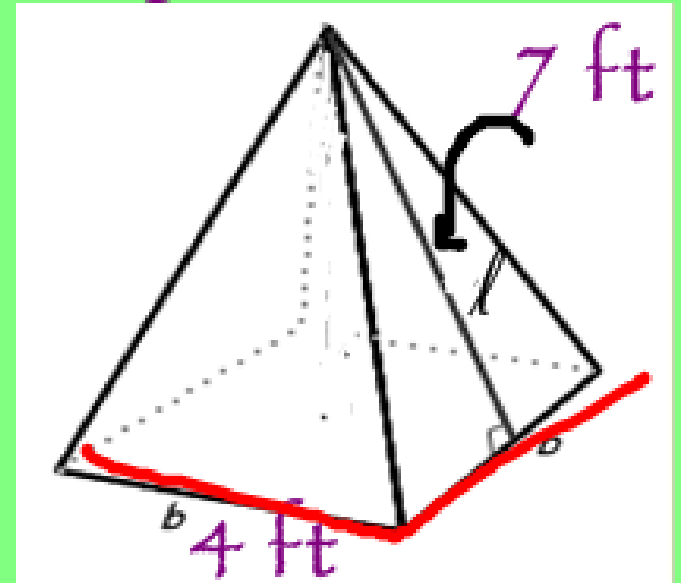
$$e = 9$$

$$S.A. = \frac{1}{2}(16)(9) + 16$$

$$72 + 16 = 88 \text{ in}^2$$

# C. Surface Area: Pyramid

practice problem

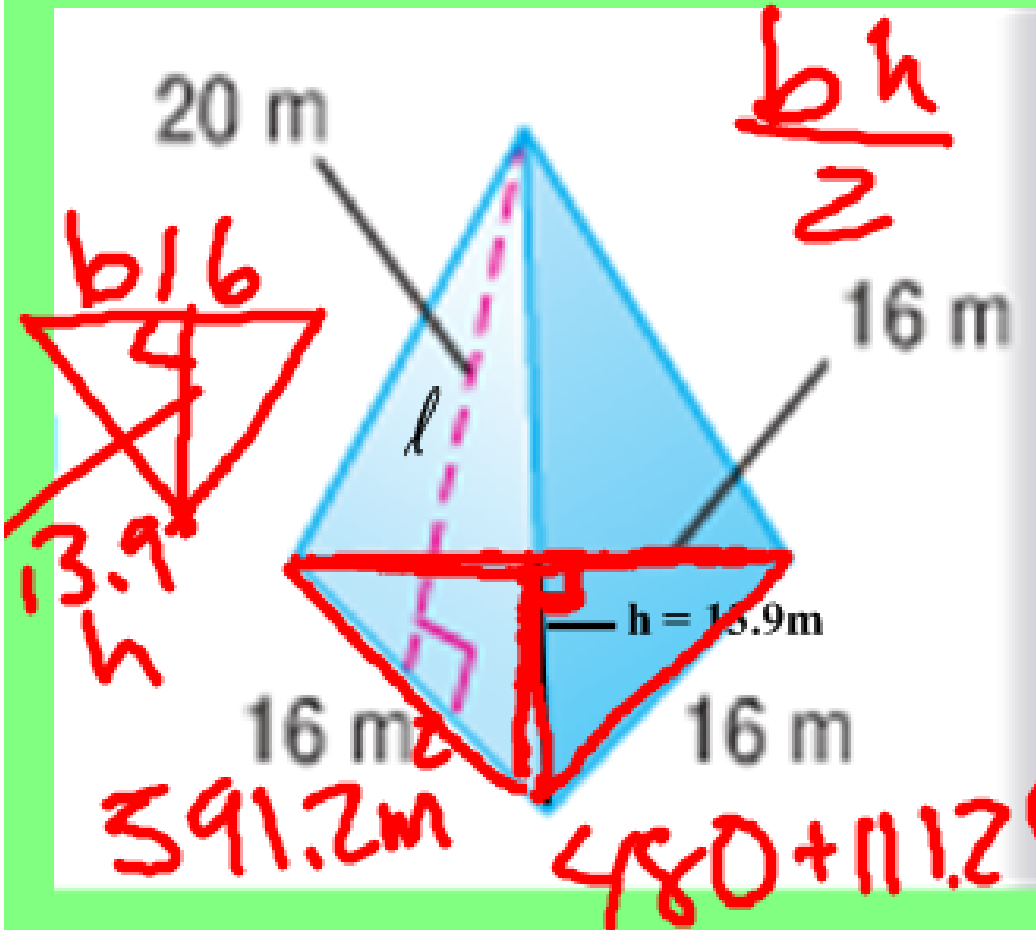


$$S.A. = \frac{1}{2}Pl + B$$

$$B = \underline{16} \quad P = \underline{16} \quad l = \underline{7}$$

$$S.A. = \frac{\frac{1}{2}(16)(7) + 16}{56 + 16} = 72 \text{ ft}^2$$

D. Now try a triangular pyramid.  $B - A \approx 125$   
 $A \approx 175$



$$S.A. = \frac{1}{2}Pe + B$$

$$B = \frac{16(13.9)}{2} = 111.2$$

$$P = \frac{3(16)}{1} = 48$$

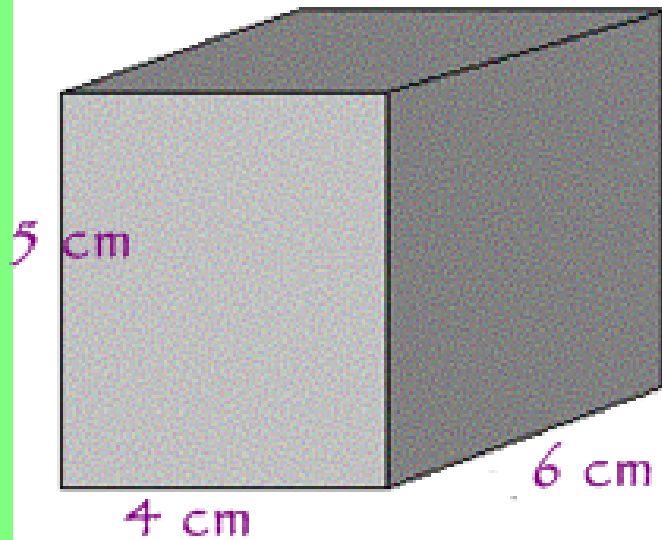
$$e = 20$$

$$h = 13.9 \text{ m}$$

$$S.A. = \frac{1}{2} (48) (20) + 111.2$$

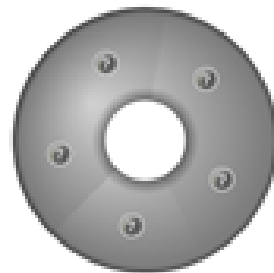
LA + B

# Surface Area: Practice



What is the surface area of the rectangular prism?

- A 90 square centimeters
- B 120 square centimeters
- C 148 square centimeters
- D 180 square centimeters

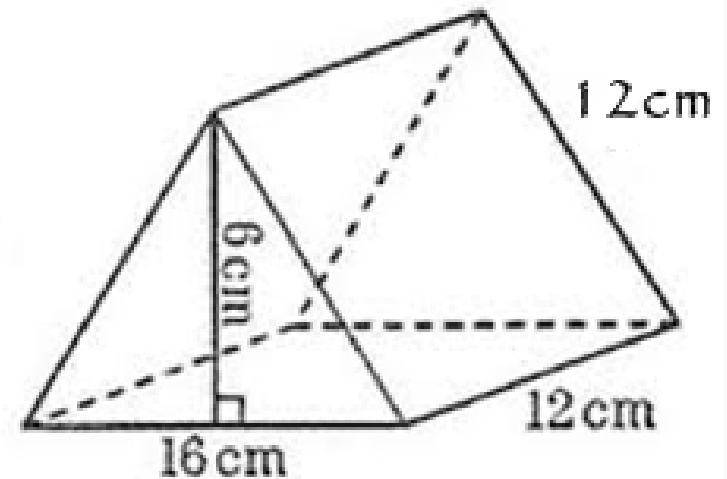


# Surface Area Practice:

## Triangular Prism

2. What is the surface area of the triangular prism?

- A** 624 square centimeters
- B** 576 square centimeters
- C** 528 square centimeters



remember the formula:  $2B + L.A.$

# Practice: Volume of Prism

remember the formula:  $V = lwh$

The volume of the rectangular prism is 3312 inches cubed.

- True
- False

18 in



8 in

23 in





# Practice: Volume of Pyramid

remember the formula:  $V = \frac{1}{3} Bh$

What is the volume of the square pyramid?

- A** 720 centimeters cubed
- B** 2160 centimeters cubed
- C** 820 centimeters cubed

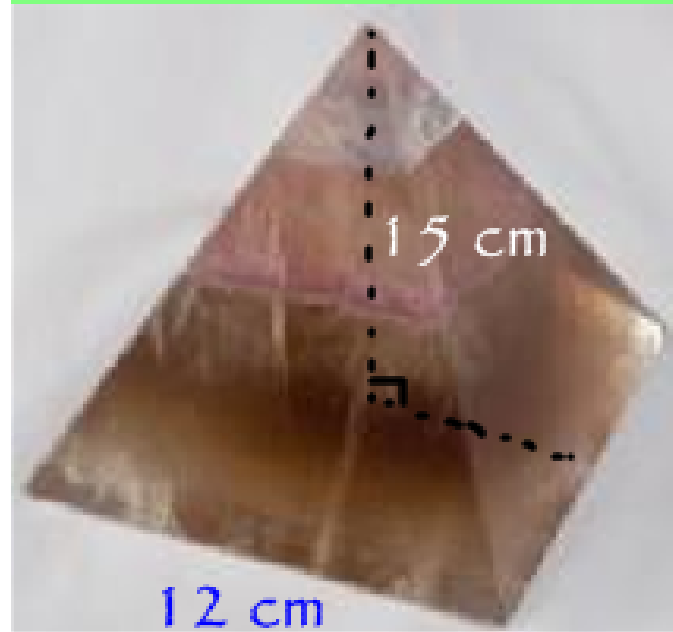


photo courtesy of <http://www.goldentreewands.com>



# Practice: Volume of Pyramid

remember the formula:  $V = \frac{1}{3} Bh$

**What is the volume of the triangular pyramid?**

- A** 84 cubic feet
- B** 252 cubic feet
- C** 126 cubic feet
- D** 42 cubic feet

