7.9 (D)

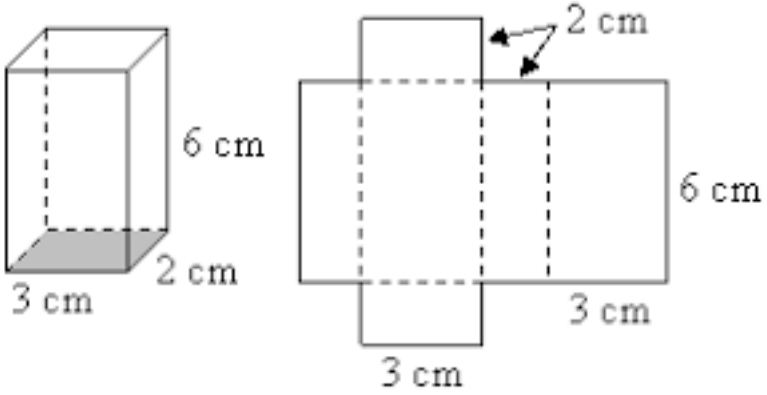
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net

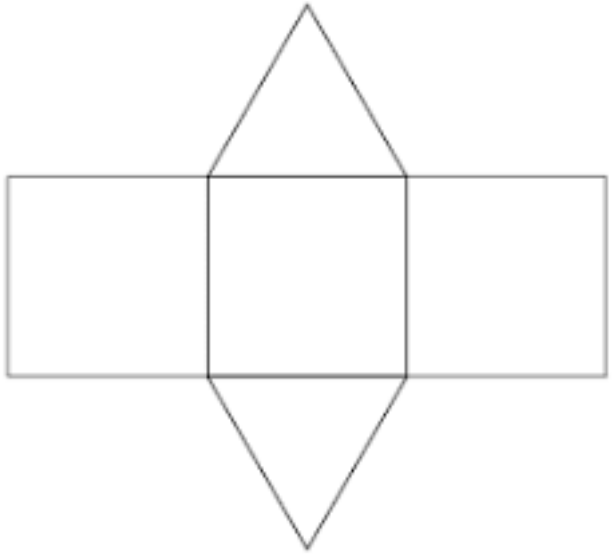
INTERVENE

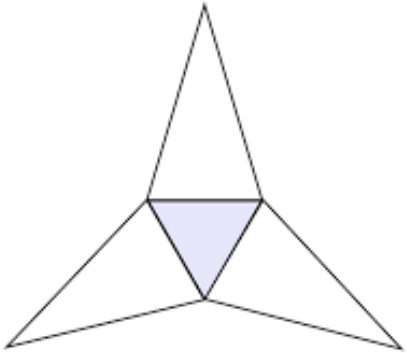
<1 min

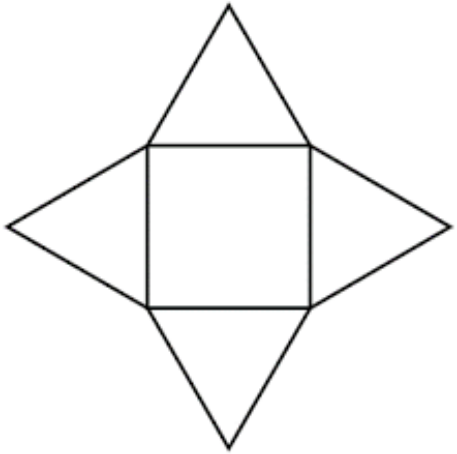
Fluency Practice

Name the Shapes:









2 min

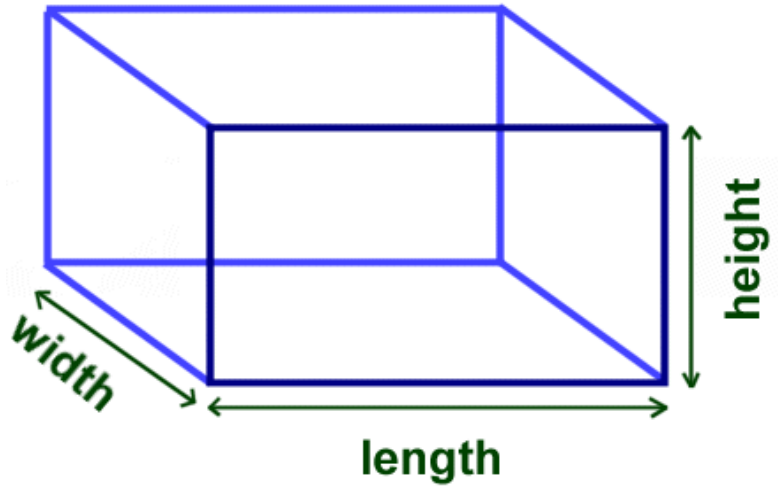
Problem Solving Strategies

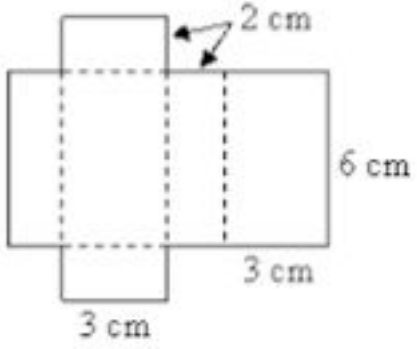
- **1. Understand the Problem**
  - Read the problem carefully (at least 2 to 3 times)
  - Highlight important information (what do I know)
  - Identify Math Clue words (words that tell you what math operations you need to use)
  - Underline what you need to find
- **2.Plan of Action (how you will solve this problem in steps)**
  - First I will
  - Then I will
  - Next I will
  - Finally, I will
- **3. Show your work in steps (solve using your steps)**
- **4. Check your answer (does my answer make sense? why)**

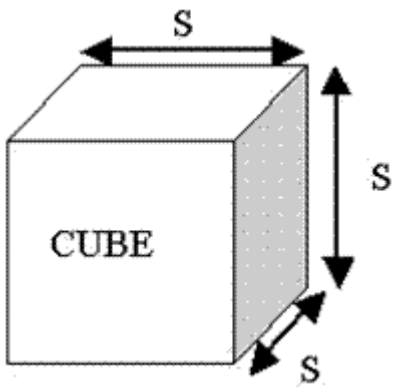
<3 min

Rectangular Prism & Cube

- Rectangular prism - A solid (3-dimensional) object which has six faces that are rectangles.
- Cube - a symmetrical three-dimensional shape, either solid or hollow, contained by six equal squares

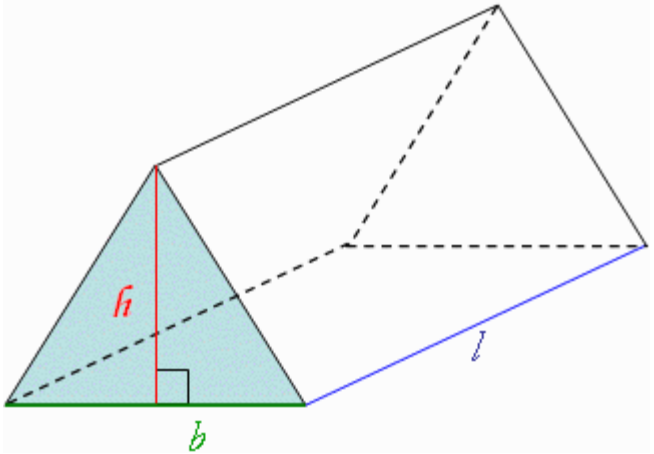


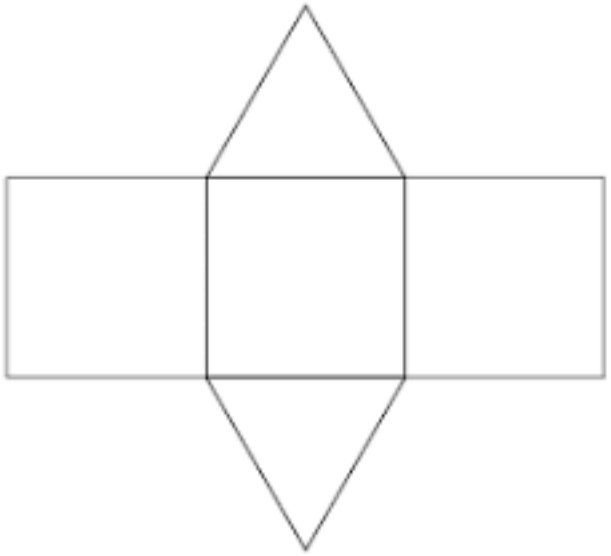




Triangular Prism

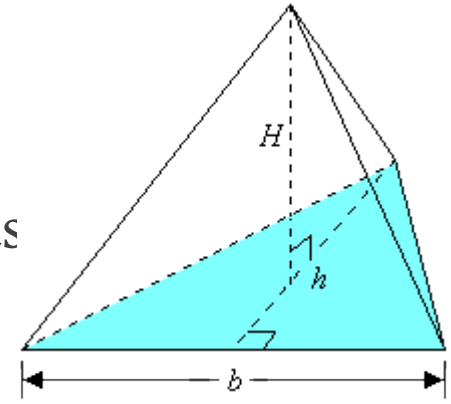
- A triangular prism is a prism made up of two triangular bases and three rectangular faces.

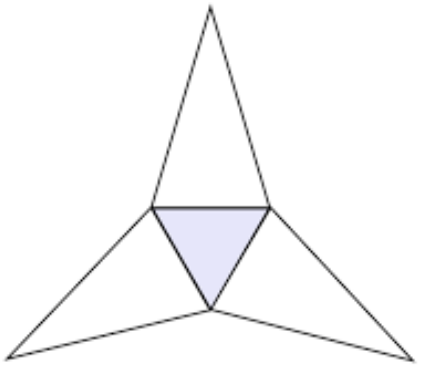




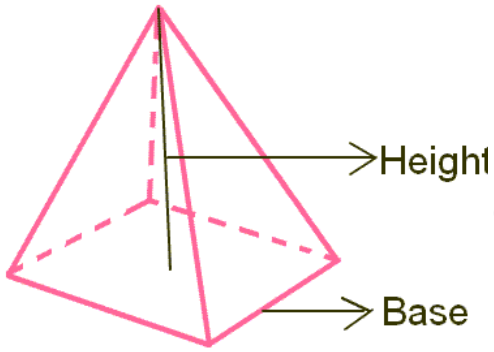
Pyramids

- Triangular Pyramid:
  a **pyramid**
  having a **triangular** bas

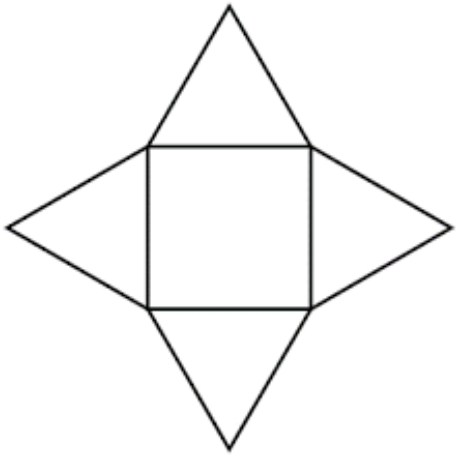




- Square Pyramid
  a **pyramid**
  having a **square** bas



Pyramid



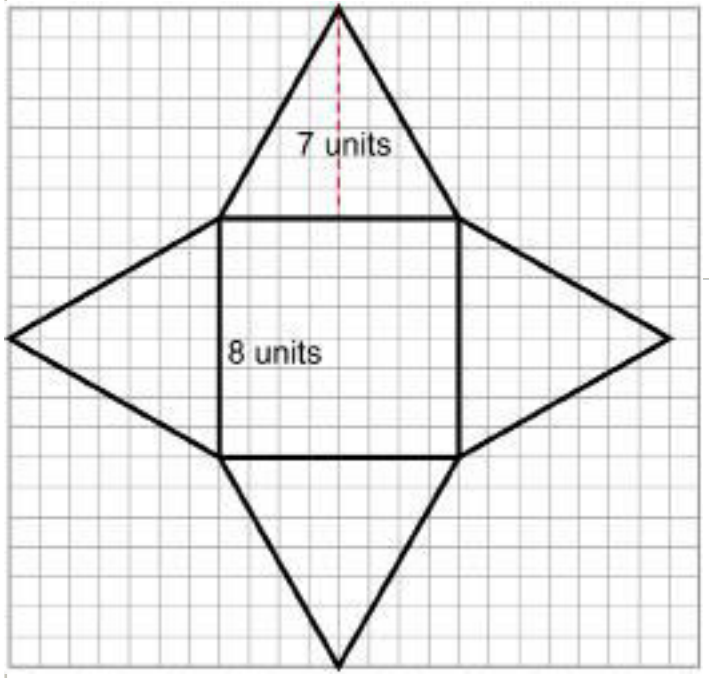
Lateral vs. Total Surface Area

Lateral surface area is the sum of areas of each face except the bases. If you were reading a soup can's label, you'd be reading everything except the bottom and top (bases). The label is the lateral surface of a soup can. The lateral surface of a rectangular prism-shaped building would include the 4 walls but not the roof or floor.

Total surface area is the sum of the area of all faces

Use your formula sheet! It's there **to help you** and will be available during STAAR

AREA		
Triangle	This is exactly the same as base x height ÷ 2	$A = \frac{1}{2}bh$
Rectangle or parallelogram		$A = bh$



This is a square pyramid.

Let's find its **lateral surface area and total surface area.**

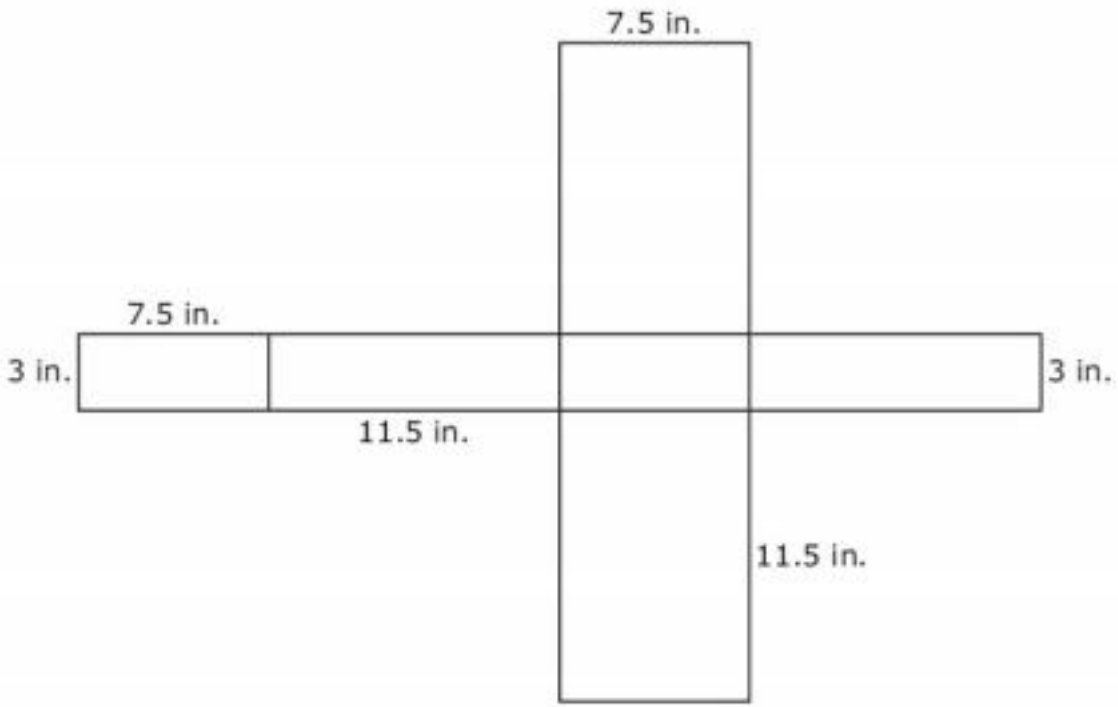
AREA	
Triangle	$A = \frac{1}{2}bh$
Rectangle or parallelogram	$A = bh$

According to the measurement chart, the area of a triangle is the length of the base times the height, divided by 2

Lateral Surface Area (no bases)	**Total Surface Area (everything)**
Area of Triangle: $7(8) \div 2 = 28$ u^2	Area of Triangle: $7(8) \div 2 = 28$ u^2
Since there are 4 congruent triangles, I can just multiply 28 x 4 to find the area of all 4 triangles = **112 u^2**	Since we're including bases here, we need the area of the square (8x8 = 64) Add 64 to 112 = **176 u^2**

I Do

The net of a rectangular prism and its dimensions are shown in the diagram.



What is the total surface area of the rectangular prism in square inches?

A 143.25 $in.^2$

B 241.5 $in.^2$

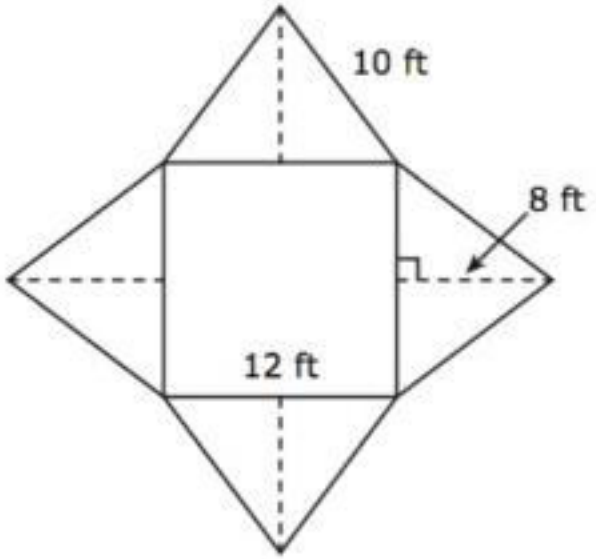
C 258.75 $in.^2$

D 286.5 $in.^2$

<5 min

We do - Question 1

The net of a square pyramid and its dimensions are shown in the diagram.



What is the total surface area of the pyramid in square feet?

F 336 ft^2

G 960 ft^2

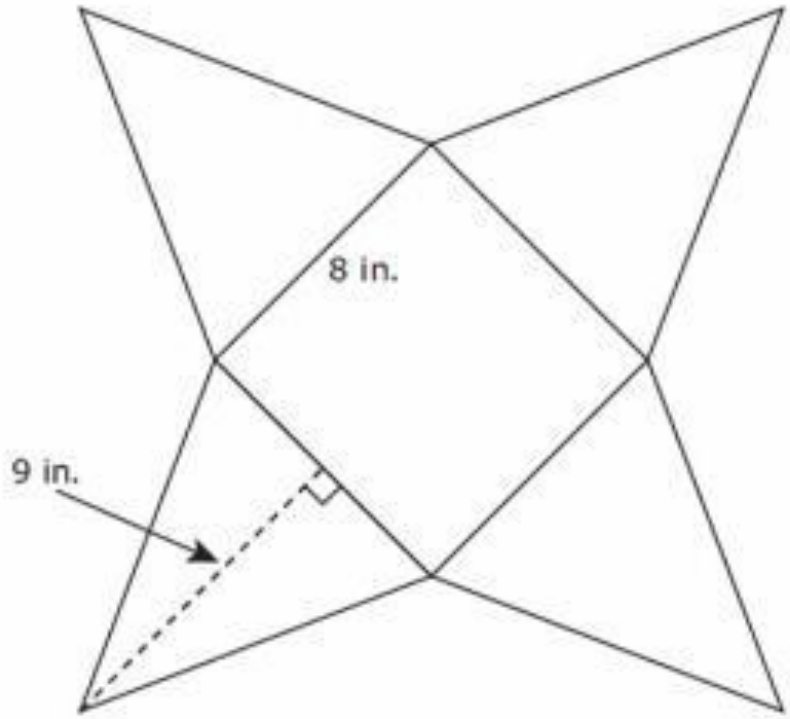
H 204 ft^2

J 624 ft^2

<5 min

We Do – Question 2

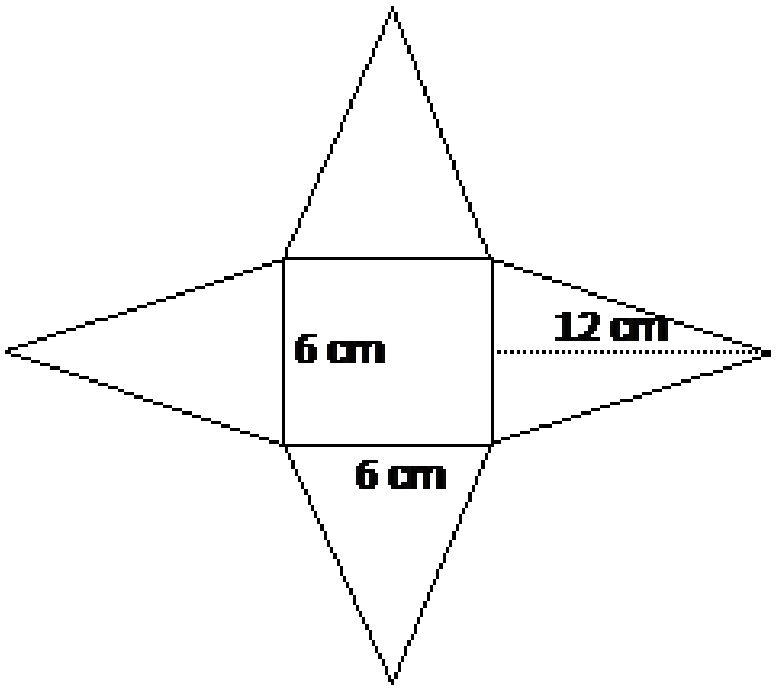
The net of a square pyramid is shown in the diagram.



What is the total surface area of the square pyramid in square inches?

<5 min

What's the lateral surface area of the square pyramid below?



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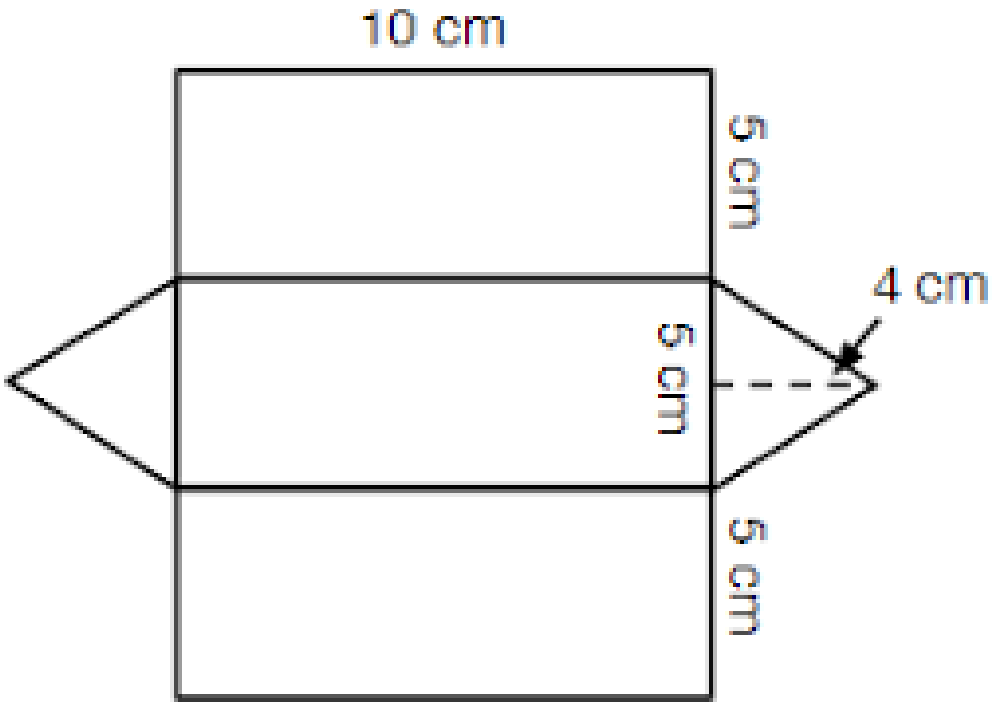
What's the lateral surface area of the figure shown below?



You Do

- Go back to Intervene to take your quiz!

Answer Key

- I Do – D
- We Do 1 – F
- We Do 2 - 208
- We Do 3 – 144
- We Do 4 – 150