

## What's Going On?

**Checking In**

Exit Question from Last Time

**Minds on**

Whaddya know?

**Action!**

The Formulae

**Consolidation**

Gettin' Tricky With It

**Learning Goal - I will learn to calculate the volume of prisms and pyramids.**

 **Checking In**

Test

Next

## Consolidation

# Popping the Question

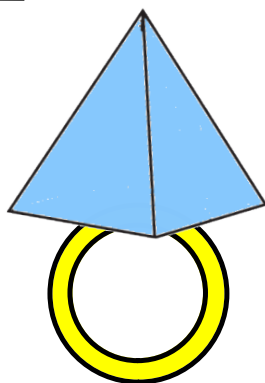
Matt is about to propose to Jill.

He has purchased a ring for her with a "diamond" in the shape of a square based pyramid... she loves math!

Jill has also told Matt that she will only marry him once he can tell her the surface area of whatever diamond he proposes with.

Matt knows that the height of the "diamond" is 6 mm and that the base is 4 mm x 4 mm.

Help Matt figure out the surface area of the "diamond" so Jill says **yes!**



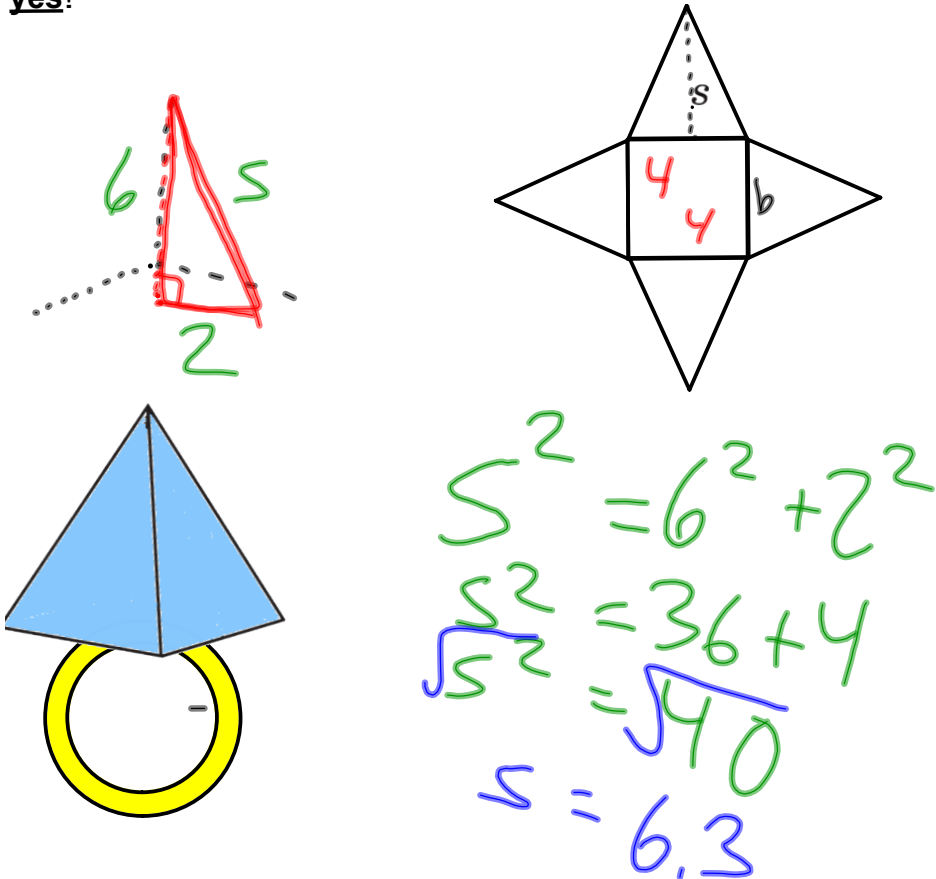
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## Consolidation

## Popping the Question

Matt knows that the height of the "diamond" is 6 mm and that the base is 4 mm x 4 mm.

Help Matt figure out the surface area of the "diamond" so Jill says **yes!**



$$s^2 = 6^2 + 2^2$$

$$s^2 = 36 + 4$$

$$s = \sqrt{40}$$

$$s = 6.3$$

$$SA = 2bs + b^2$$

$$SA = 2(4)(6.3) + (4)^2$$

$$SA = 50.4 + 16$$

$$SA = 66.4 \text{ mm}^2$$

**Checking In**

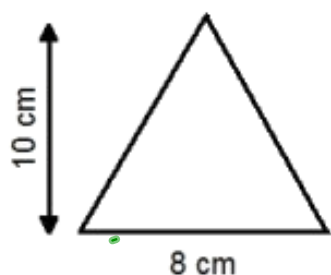
# **Unit 7: Measurement**

## **Day 4: Volume of Prisms and Pyramids**

**Minds on**

## Whaddya Know?

How much paint would you need to paint the triangle?



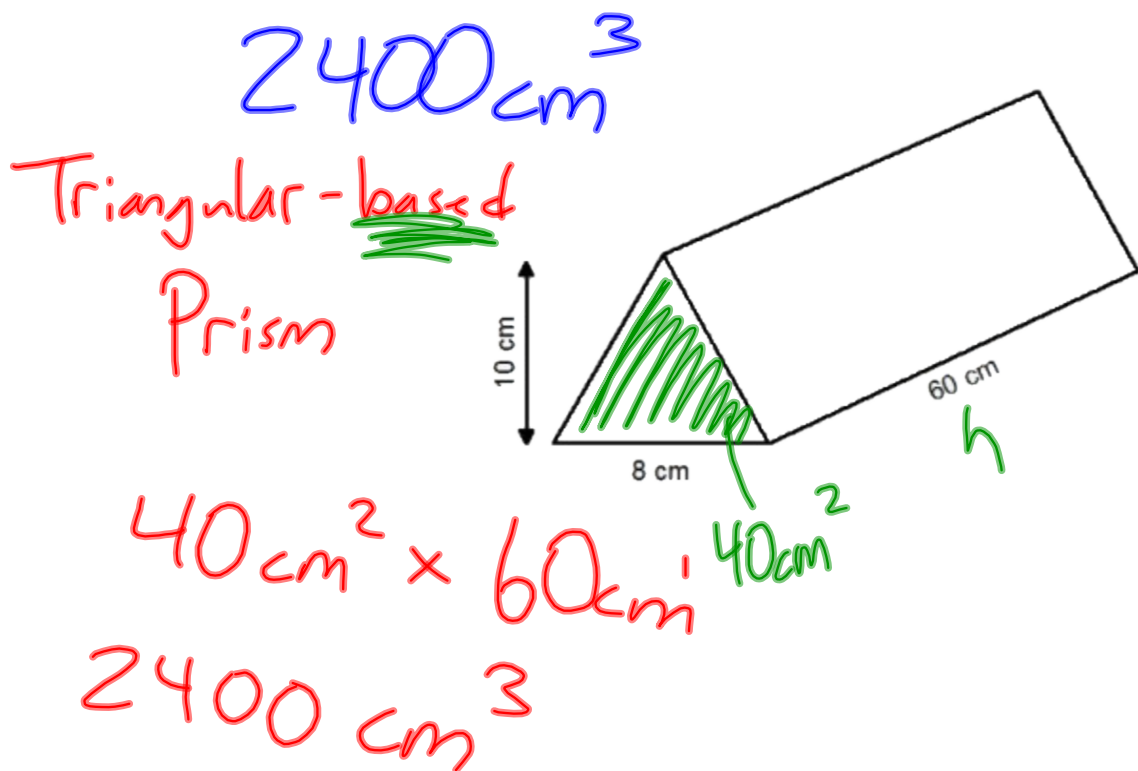
$$40 \text{ cm}^2$$

$$A = \frac{b \times h}{2}$$
$$A = 40$$

## Minds on

## Whaddya Know?

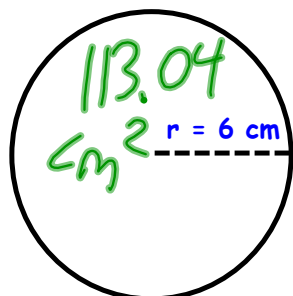
How much paint would you need to fill the triangular prism?



**Minds on**

## Whaddya Know?

How much paint would you need to paint the circle?



$$A = \pi r^2$$

$$A = \pi (6)^2$$

$$A = \pi \times 36$$

$$A = 113.04$$



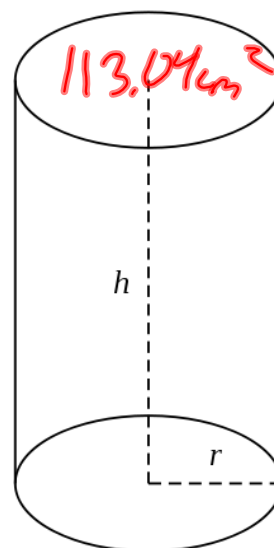
## Minds on

# Whaddya Know?

How much paint would you need to fill the cylinder?

$$1695.6 \text{ cm}^3$$

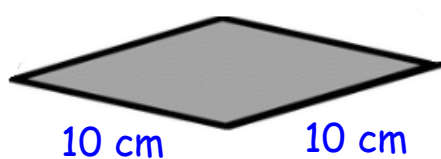
$$\begin{aligned} r &= 6 \text{ cm} \\ h &= 15 \text{ cm} \end{aligned}$$



## Minds on

### Whaddya Know?

How much paint would you need to paint the square?

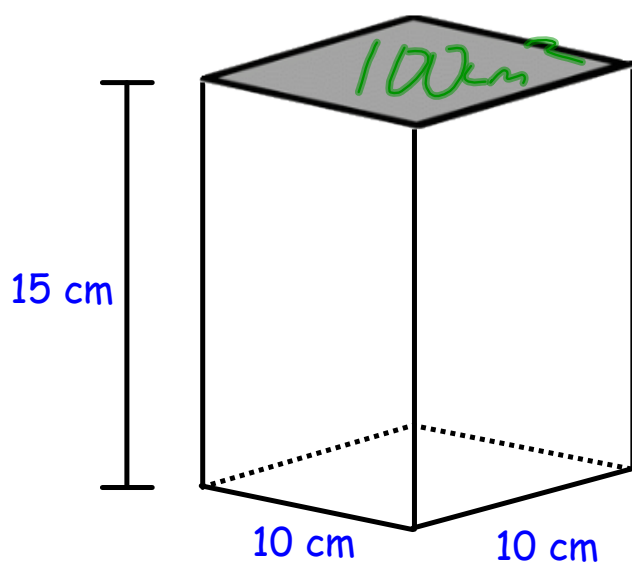


$$100 \text{ cm}^2$$

## Minds on

### Whaddya Know?

How much paint would you need to fill the box?



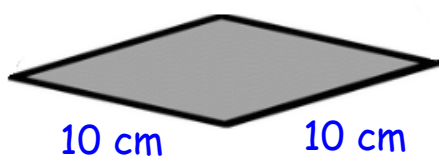
$$1500\text{cm}^3$$

**Minds on**

## Whaddya Know?

How much paint would you need to paint the square?

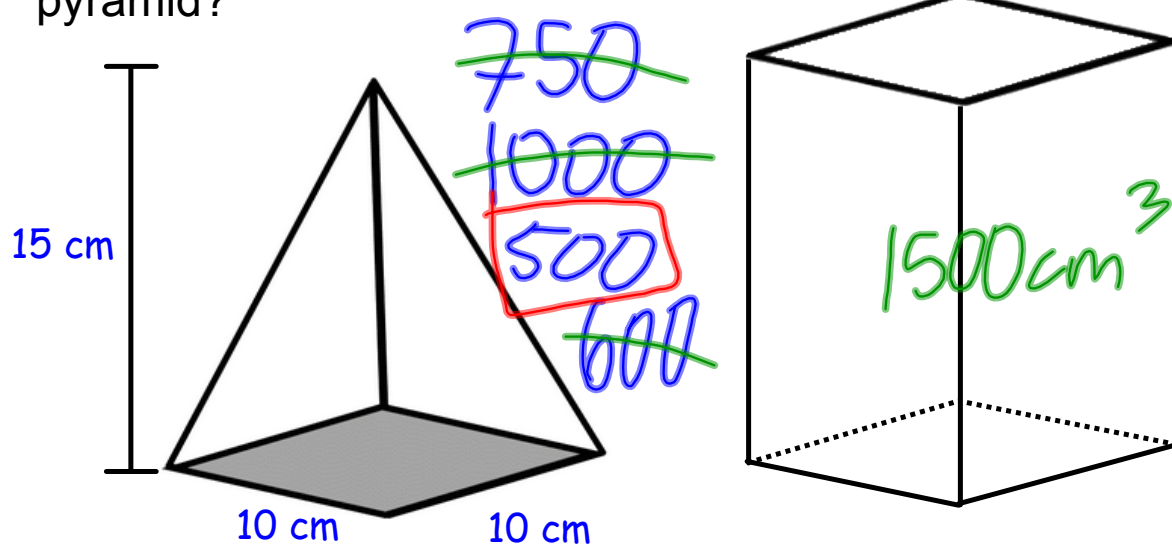
$100\text{cm}^2$



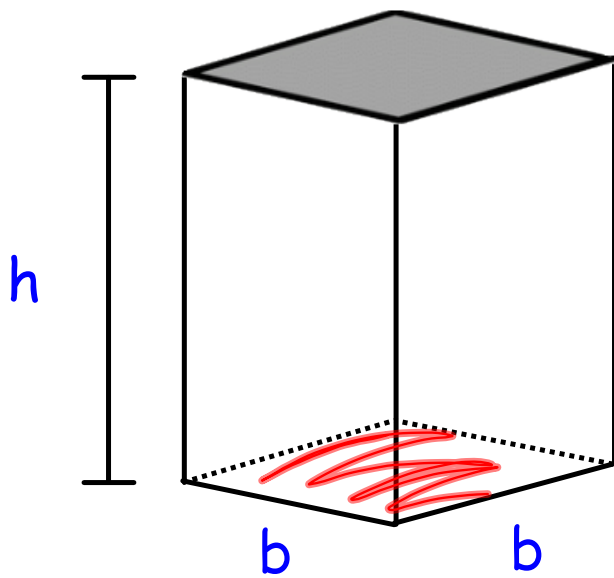
## Minds on

## Whaddya Know?

How much paint would you need to fill the square-based pyramid?



Square -based Prism

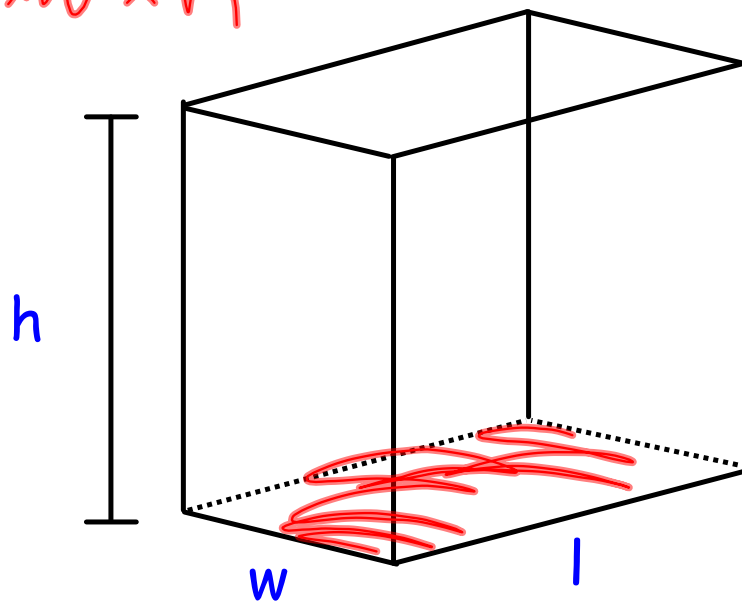


$$V = b^2 h$$

b x b

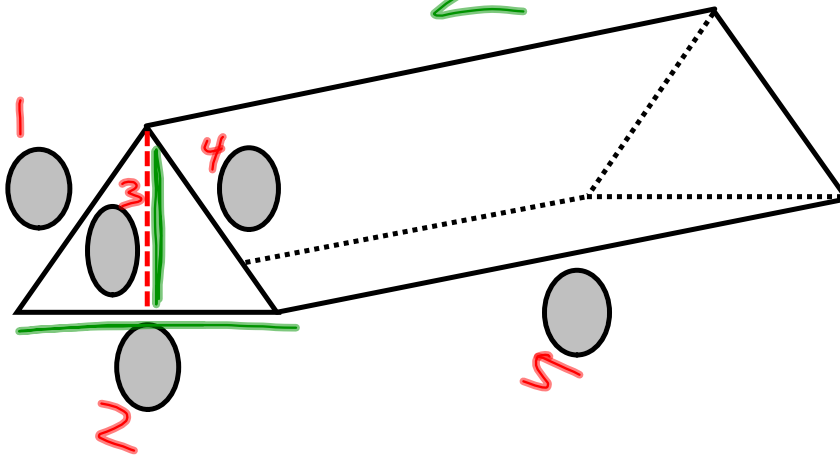
Rectangular-based Prism

$$V = l \times w \times h$$



Triangular-based Prism

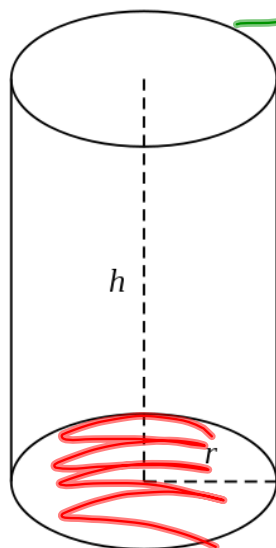
$$V = \frac{b \times l \times h}{2}$$





Circular -based Prism ??

Cylinder



A.K.A.  
Cylinder

$$V = \pi r^2 h$$

**Action!**

## The Formulae

Volume of **ANY** Prism

$$V = (A_{\text{Base}})(\text{height})$$

Volume of a Pyramid

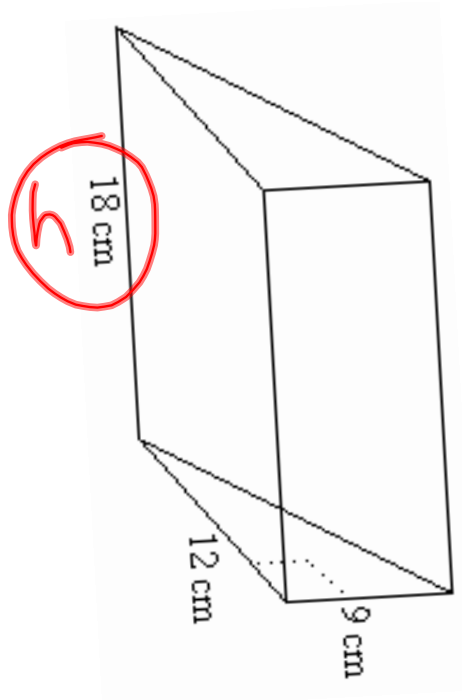
$$V = \frac{(A_{\text{Base}})(\text{height})}{3}$$

**Action!**

How "Tall" Am I?

Volume of **ANY** Prism

$$V = (A_{\text{Base}})(\text{height})$$

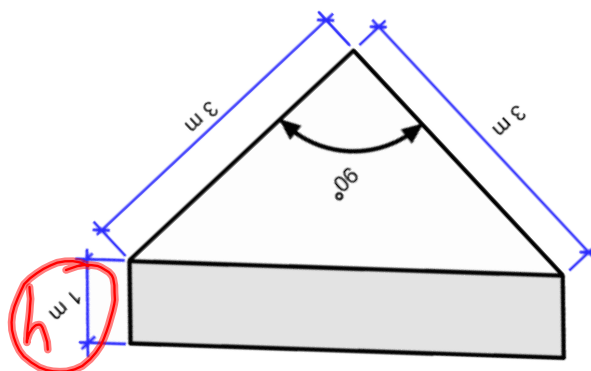


**Action!**

How "Tall" Am I?

Volume of **ANY** Prism

$$V = (A_{\text{Base}})(\text{height})$$

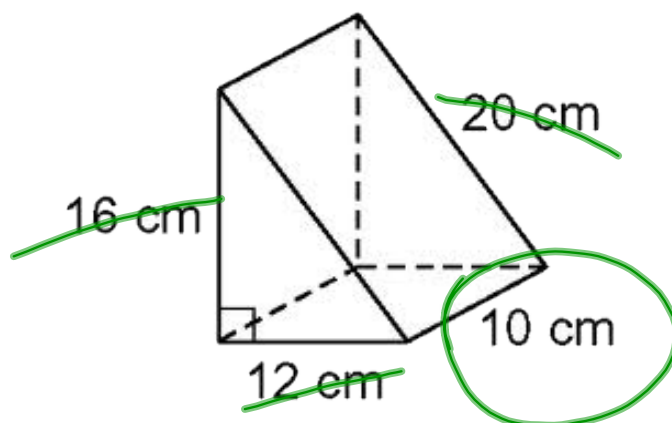


**Action!**

How "Tall" Am I?

Volume of **ANY** Prism

$$V = (A_{\text{Base}})(\text{height})$$

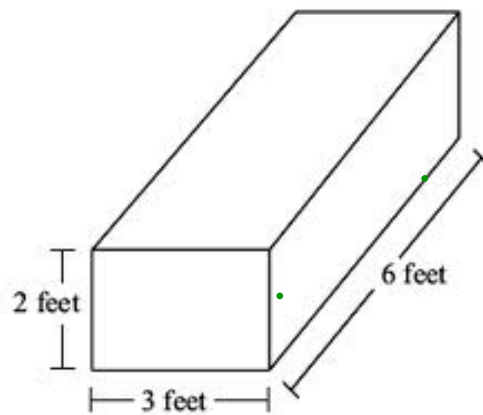


**Action!**

How "Tall" Am I?

Volume of **ANY** Prism

$$V = (A_{\text{Base}})(\text{height})$$

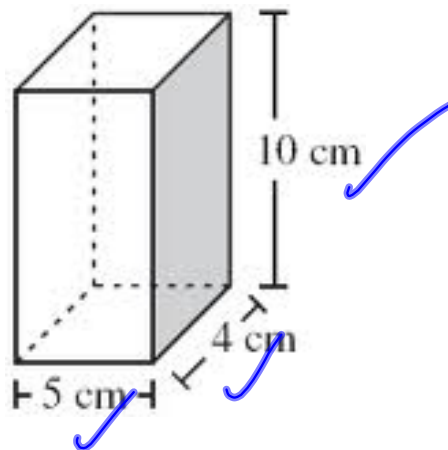


**Action!**

How "Tall" Am I?

Volume of **ANY** Prism

$$V = (A_{\text{Base}})(\text{height})$$

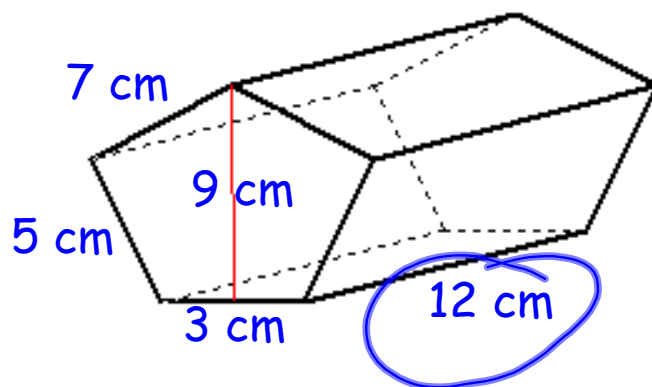


**Action!**

How "Tall" Am I?

Volume of **ANY** Prism

$$V = (A_{\text{Base}})(\text{height})$$





## Consolidation

# Homework

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