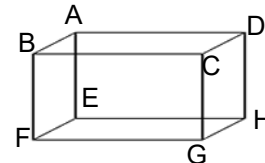


Solids Practice



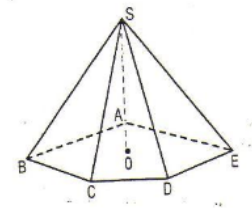
1. Consider the prism on the right.

- a) Name all edges parallel to edge AB: \_\_\_\_\_
- b) Name the face parallel to the face ABFE \_\_\_\_\_
- c) Name the faces perpendicular to the base EFGH  
\_\_\_\_\_



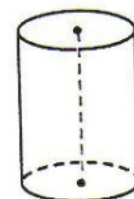
2. The pyramid on the right with apex S is lying on its base, the polygon ABCDE. The segment SO, perpendicular to the base, is the height of the pyramid. The point O is at the foot of the height. It is a right regular pyramid, because its base is a regular polygon, and the foot of the height O is the centre of the base.

- a) What is the common point to each of the lateral faces? \_\_\_\_\_
- b) What is the shape of each lateral face? \_\_\_\_\_
- c) Are the lateral faces congruent? \_\_\_\_\_
- d) Are the lateral edges SA, SB, SC, SD, and SE congruent? \_\_\_\_\_
- e) Are the edges representing the sides of the base ABCDE congruent? \_\_\_\_\_



3. The cylinder on the right is lying on its lower base.

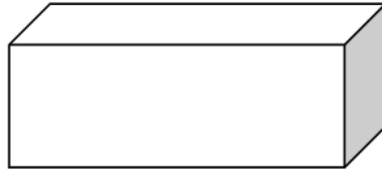
- a) 1. What is the shape of each base? \_\_\_\_\_
- 2. Are the bases congruent? \_\_\_\_\_
- 3. Are the bases parallel? \_\_\_\_\_
- b) What is the segment joining the centres of the bases called?  
\_\_\_\_\_
- c) Is the lateral surface curved or flat? \_\_\_\_\_



Learning Activity – Area



Prism:



Draw the net:

Name all the shapes in the net. How many of each shape are there?

- \_\_\_\_\_.
- \_\_\_\_\_.
- \_\_\_\_\_.
- \_\_\_\_\_.

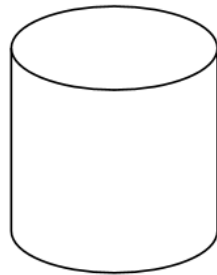
Write the formula for the area of each shape:

What would be the formula for the total area ( $A_t$ ) of this solid?

Formula:

$A_t =$

Cylinder:



Draw the net:

Name all the shapes in the net. How many of each shape are there?

- \_\_\_\_\_.
- \_\_\_\_\_.
- \_\_\_\_\_.
- \_\_\_\_\_.

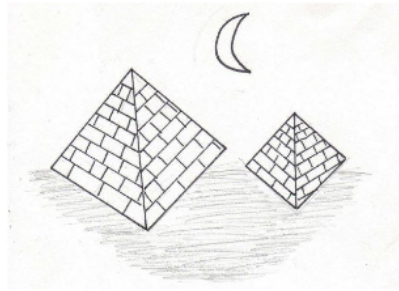
Write the formula for the area of each shape:

What would be the formula for the total area ( $A_t$ ) of this solid?

Formula:

$A_t =$

Pyramid:



Draw the net:

Name all the shapes in the net. How many of each shape are there?

- \_\_\_\_\_.
- \_\_\_\_\_.
- \_\_\_\_\_.
- \_\_\_\_\_.

Write the formula for the area of each shape:

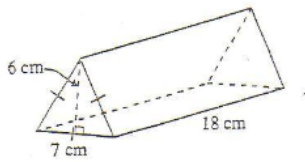
What would be the formula for the total area ( $A_t$ ) of this solid?

Formula:

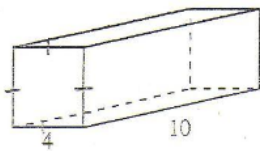
$A_t =$

Prisms

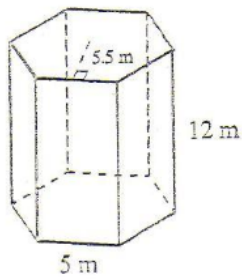
1. Find the total surface area



2. Find the total surface area



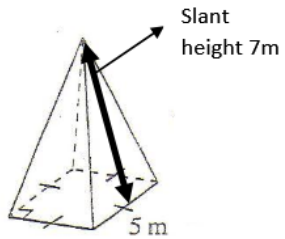
3. Find the total surface area



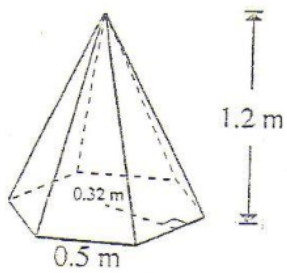
Pyramids

# AS 90

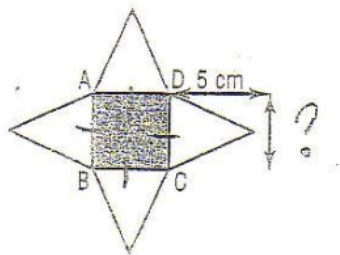
1. Find the total surface area



2. Find the total surface area



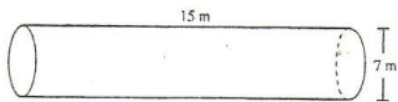
3. Find the total surface area



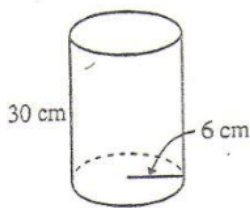
Cylinders

# AS 91

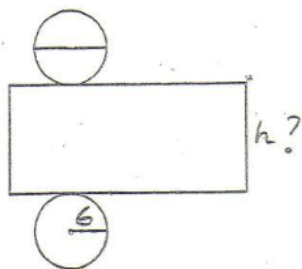
1. Find the total surface area




2. Find the total surface area



3. Find h?



Lesson 44-46

1. A pentagonal right prism is 40cm tall. Each side of the pentagon measures 8cm and the apothem is 6cm. what is the total surface area of this prism?

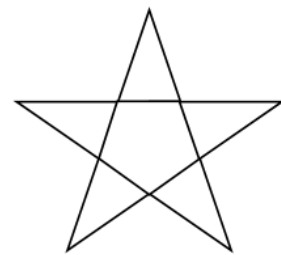
2. Find the total surface area of a cylinder whose bases are 10cm in diameter and whose height is 15cm.

3. A net of a pyramid is represented on the right. The base is a regular pentagon with a side length of 20cm and a 13.8cm apothem. The pyramid has a slant height of 12cm. Calculate:

a) The area of the base:

b) The lateral area:

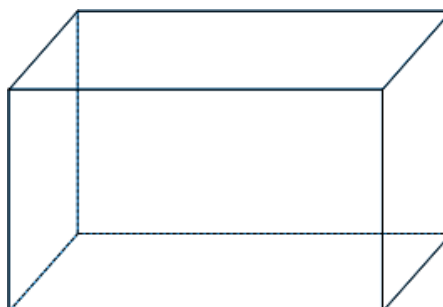
c) The total area:





## Lesson 44-46

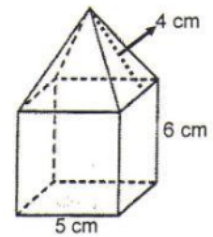
4. The roof of a house has the shape of a pyramid with a square base whose side length is 12m. The pyramid's slant height is 4m. We repaint the roof with paint that costs \$18 per litre. If one litre of paint covers  $3\text{m}^2$ , determine the total cost of the paint needed.
5. A farmer has a cylindrical silo 15m high and a radius of 4m, how much paint would be required to paint the exterior of the silo if one litre of paint covers 10 square metres? (Not the bottom nor the top)
6. Mr. Fixit is building a laundry room in his basement. It will measure 4 meters by 5 metres. If he intends on painting the walls, ceiling and door with 2 coats of paint, and each litre of paint covers  $70\text{m}^2$ , how many litres of paint should he buy?



## Decomposable Solids

Lesson 46

1. Determine the total surface area of the following solid that is composed of a squared-base prism topped with a pyramid.



2. Calculate the total surface area of the cylinder, given that the radius of each sphere is 3.5cm.

**Missing measure**

1. The lateral area of a cylinder is approximately  $446.11\text{mm}^2$ . The radius of the cylinder is  $71\text{mm}$ . What is the height of the cylinder?
  
  
  
  
  
  
  
  
  
  
2. The lateral area of a square based pyramid is  $14\,260\text{m}^2$ . Its slant height measures  $31\text{m}$ . What is the perimeter of the base?

