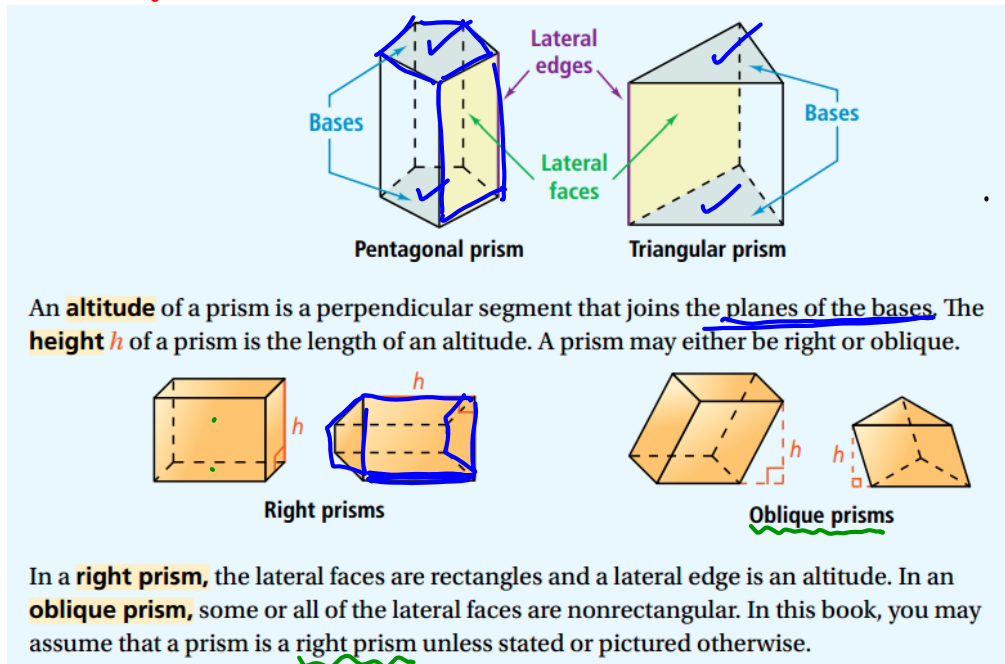


11.2 Surface Area of Prisms & Cylinders

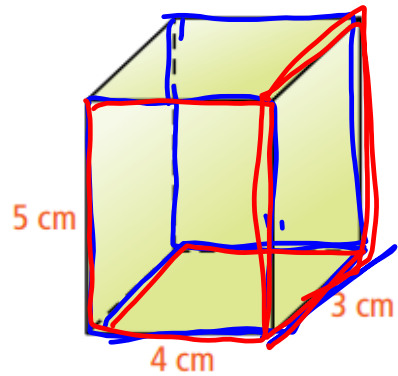
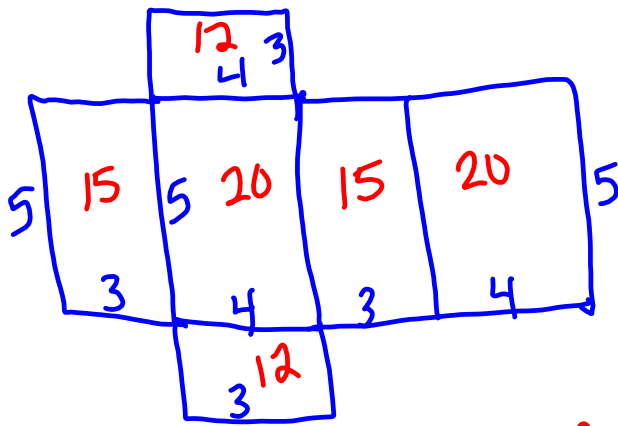
Prism: A polyhedron with two congruent, parallel bases.



Lateral Area: Area of the lateral faces.

Surface Area: Area of the lateral faces and bases.

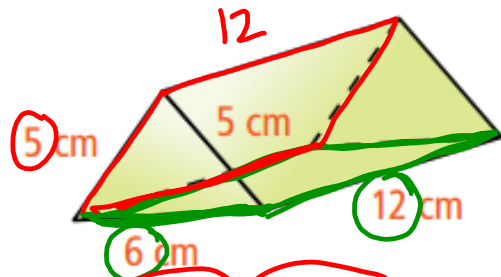
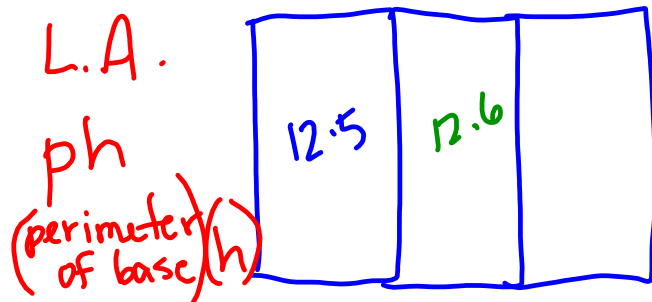
Ex 1 | What is the surface area of the prism? Use a net.



$$96 \text{ cm}^2$$

$$2(5 \cdot 4) + 2(5 \cdot 3) + 2(4 \cdot 3)$$

Ex 2 | What is the lateral area of the triangular prism?



$$12 \cdot 5 + 12 \cdot 6 + 12 \cdot 5$$

$$60 + 72 + 60$$

$$192 \text{ cm}^2$$

$$\text{S.A.} = \text{L.A.} + 2B$$

Ex 3

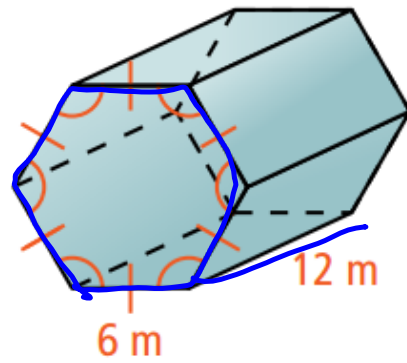
- What is the lateral area of the prism at the right?
- What is the area of a base in simplest radical form?
- What is the surface area of the prism rounded to a whole number?

$$L.A. = \text{perimeter}_{\text{base}} \cdot h$$

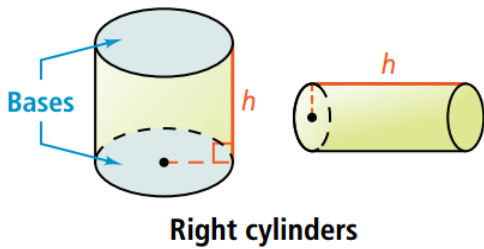
$$6 \cdot 6 \cdot 12$$

$$36 \cdot 12$$

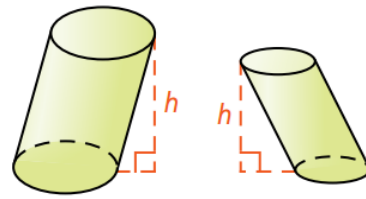
$$= 432 \text{ m}^2$$



Cylinder: A 3-D object with two congruent parallel circle bases.

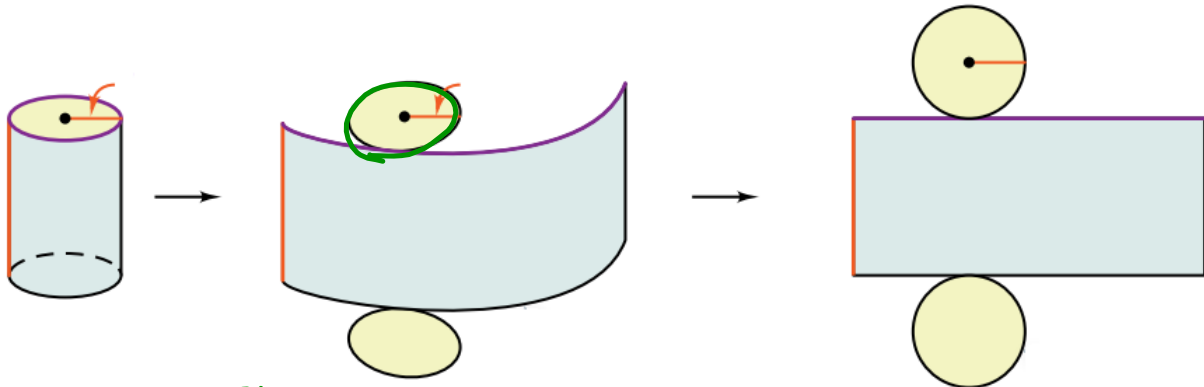


Right cylinders



Oblique cylinders

Surface Area of a Cylinder



LA: $2\pi r h$ $p \cdot h = \text{Cir.} \cdot h$

SA: $2\pi r h + 2\pi r^2$

$A_0 = \pi r^2$

Ex 4 | The radius of the base of a cylinder is 4 in. and the height is 6 in. What is the surface area of the cylinder in terms of π ?

$$S.A = L.A + 2B$$

$$= Ch + 2B$$

$$= 2\pi \cdot 4 \cdot 6 + 2(\pi \cdot 4^2)$$

$$= 48\pi + 32\pi$$

$$= 80\pi \text{ in}^2$$

