9.2 Surface Area of Prisms and Cylinders

Goal: To be able to find the surface areas of prisms and cylinders

Warm up

Find the area of each polygon. If necessary, round to the nearest whole number.

1. triangle: base = 12 ft, height = 9 ft
2. square: side = 13 in.
3. rectangle: length = 10 m, width = 8 m
4. circle: radius = 3 cm

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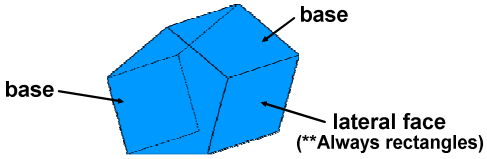
prism: a polyhedron with two congruent parallel bases.
** the other faces are lateral faces



Prisms are named by the shapes of their bases.

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Lateral Area:

Perimeter of the base times the height

L.A. = (p) (h)

h = distance between the two bases

Surface Area of a Prism :

Lateral Area + Area of the two bases

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

B = Area of the base

** This formula changes with the shape of the base

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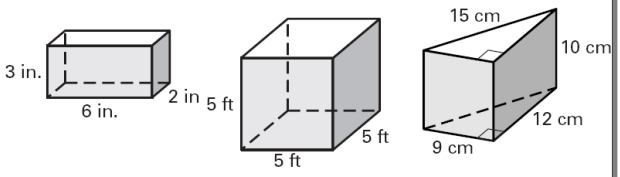
Find the surface area of the prism.



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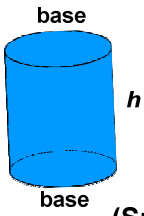
A **cylinder** is a solid with two congruent circular bases that lie in parallel planes.



(Lateral Area) L.A. = $2\pi rh$ or πdh

(Surface Area) S.A. = L.A. $+2\pi r^2$

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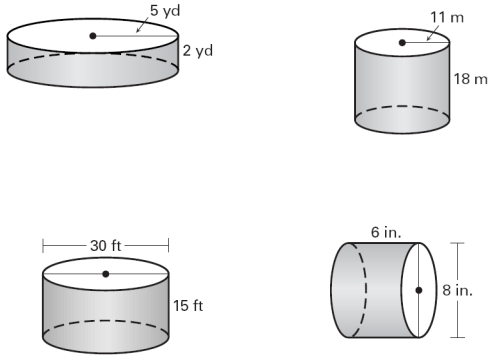
Find Surface Area of a Cylinder



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