12 Perimeter and Area of Plane Figures

Key Notes

12.1 Conversion of Units

$1\ m = 100\ cm$

$1\ m^2 = 100^2\ cm^2$

$= 10\ 000\ cm^2$

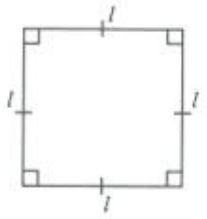
$1\ cm = 0.01\ m$

$1\ cm^2 = 0.01^2\ m^2$

$= 0.0001\ m^2$

12.2 Perimeter and Area of Basic Plane Figures

Squares



Note:

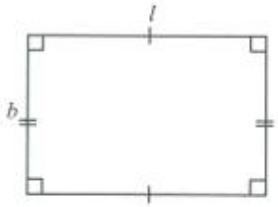
Perimeter $= 4 \times l$

$= 4l$

Area $= l \times l$

$= l^2$

Rectangles



Note:

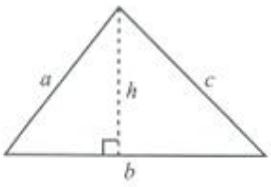
Perimeter $= l + b + l + b$

$= 2(l + b)$

Area $= l \times b$

$= lb$

Triangles



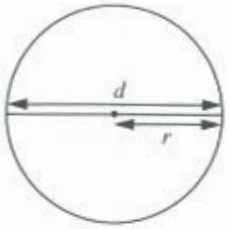
Note:

Perimeter $= a + b + c$

Area $= \frac{1}{2} \times b \times h$

$= \frac{1}{2}bh$

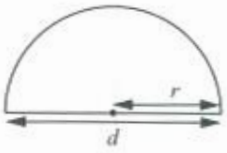
Circles



Note:
Perimeter = $2\pi r$ or πd

Area = πr^2

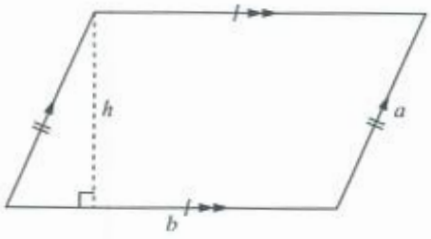
Semicircles



Note:
Perimeter = $\left(\frac{1}{2} \times 2\pi r\right) + d$
$= \pi r + d$

Area = $\frac{1}{2} \times \pi r^2$
$= \frac{1}{2}\pi r^2$

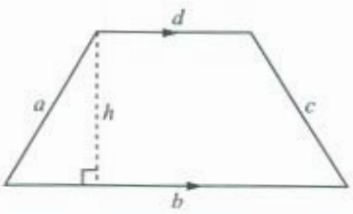
12.3 Perimeter and Area of Parallelograms



Note:
Perimeter = $a + b + a + b$
$= 2(a + b)$

Area = $b \times h$
$= bh$

12.4 Perimeter and Area of Trapeziums



Note:
Perimeter = $a + b + c + d$

Area = $\frac{1}{2} \times (b + d) \times h$
$= \frac{1}{2}h(b + d)$