# *Review: Geometry & Measurement*

**Geometry**

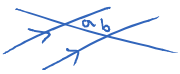
Complementary

add to 90°


Supplementary (line and C-pattern)

add to 180°

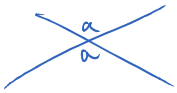

OR



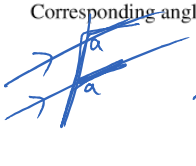

Angle Sum Theorem

- △ angles add to 180°
- ▱ angles add to 360°

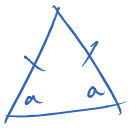
Opposite Angles (X-pattern)




Corresponding angles (F and Z)



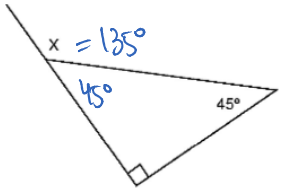

Isosceles Triangle



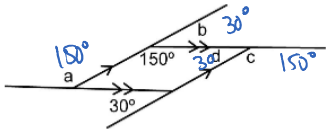

two same angles

Find missing angles:

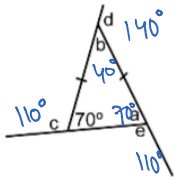
1.



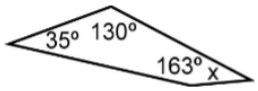

2.




3.




4.




$x = 360° - 163° - 130° - 35°$

$= 32°$

**Perimeter & Area**

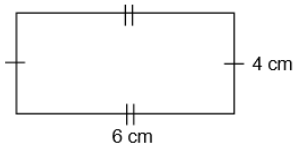
***Perimeter*** – distance around the object

| Square | Rectangle | Triangle | Circle | Irregular shapes |
|---|---|---|---|---|
| $P = 4s$ | $P = 2l + 2w$ | $P =$ sum of all sides | $C = 2\pi r$ or $C = \pi d$ | Add all outside sides together. |

***Area*** – # of units inside a 2D shape

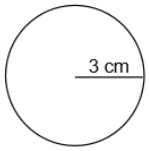
| Square | Rectangle | Triangle | Circle | Irregular shapes |
|---|---|---|---|---|
| $A = s^2$ | $A = lw$ | $A = \frac{bh}{2}$ | $A = \pi r^2$ | Divide the shape into smaller regular shapes and add all the areas together. |

Find the perimeter and area of each shape.



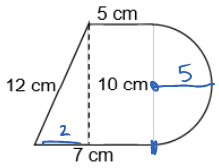

$P = 6+6+4+4$
$= 20\text{ cm}$

$A = lw$
$= 6(4)$
$= 24\text{ cm}^2$




$P = 2\pi r$
$= 2(3.14)(3)$
$= 18.8\text{ cm}$

$A = \pi r^2$
$= 3.14(3)^2$
$= 28.3\text{ cm}^2$




$\frac{2\pi r}{2}$
$= \frac{3.14(5)}{2}$
$= 15.7$

$P = 7+12+5+15.7$
$= 39.7$

$A = \frac{bh}{2} + lw + \frac{\pi r^2}{2}$
$= \frac{(2)(10)}{2} + (5)(10) + \frac{(3.14)(5)^2}{2}$
$= 10 + 50 + 39.25$
$= 99.25\text{ cm}^2$

**Surface Area & Volume**

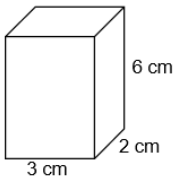
***Surface Area*** – # of units on each SIDE of 3D object (cover)

| Rectangular Prism | Cylinder |
|---|---|
| $SA = 2lw + 2lh + 2wh$ | $SA = 2\pi r^2 + 2\pi rh$ |

***Volume*** – # of units INSIDE of 3D object (space inside)

| Rectangular Prism | Cylinder |
|---|---|
| $V = lwh$ | $V = \pi r^2 h$ |

Find the surface area and volume of each shape.




$SA = 2lw + 2lh + 2wh$

$= 2(3)(2) + 2(3)(6) + 2(2)(6)$

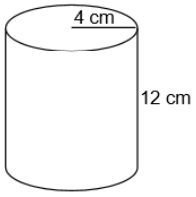
$= 12 + 36 + 24$

$= 72\ cm^2$

$V = lwh$

$= 3(2)(6)$

$= 36\ cm^3$




$SA = 2\pi r^2 + 2\pi rh$

$= 2(3.14)(4)^2 + 2(3.14)(4)(12)$

$= 401.92\ cm^2$

$V = \pi r^2 h$

$= (3.14)(4)^2(12)$

$= 602.88\ cm^3$