M8 - 7.1 - Quadrilateral Volume Notes
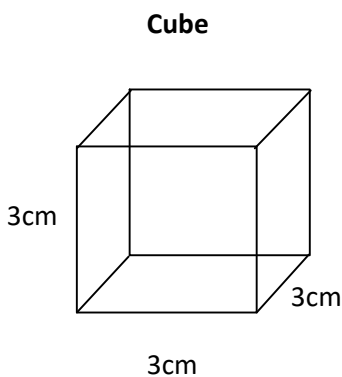
Volume: equal to the area of the base time height: "$V = (area\ of\ base) \times (height)$".
The base must be the same as the top.

Cube

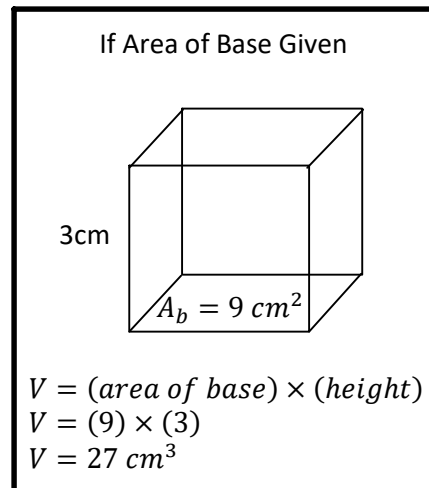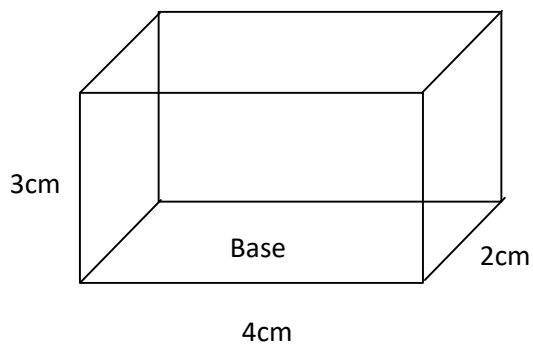Volume

3cm

3cm

3cm

$V = (area\ of\ base) \times (height)$
$V = (l \times w) \times (h)$
$V = lwh$

$V = lwh$
$V = 3 \times 3 \times 3$

$V = 27 cm^3$

If Area of Base Given

3cm

$A_b = 9\ cm^2$

$V = (area\ of\ base) \times (height)$
$V = (9) \times (3)$
$V = 27\ cm^3$

Rectangular Prism

Volume

3cm

Base

2cm

4cm

$V = (area\ of\ base) \times (height)$
$V = (l \times w) \times (h)$
$V = lwh$

$V = lwh$
$V = 4 \times 2 \times 3$

$V = 24 cm^3$

Notice: the formula for the volume of a cube and a rectangular prism is just: $V = lwh$.