Insulator Harmonized Level 2

FORMULAS

Perimeter and Circumference	
$Perimeter\ of\ a\ square = 4s$	$Perimeter\ of\ a\ trapezoid = s1 + s2 + s3 + s4$
$Perimeter\ of\ a\ parallelogram = 2(b + s)$	$Perimeter\ of\ a\ triangle = s1 + s2 + s3$
$Perimeter\ of\ a\ rectangle = 2(L + W)$	$Perimeter\ of\ a\ regular\ polygon = sum\ of\ all\ sides$
$Circumference\ of\ a\ circle = \pi d$	$Circumference\ of\ a\ circle = 2\pi r$
$Arc\ length\ of\ a\ circle = \pi \times d \times \frac{degrees}{360°}$	

Area	
$Area\ of\ a\ square = s^2$	$Area\ of\ a\ rectangle = LW$
$Area\ of\ a\ triangle = \frac{bh}{2}$	$Area\ of\ a\ circle = \pi r^2$
$Area\ of\ a\ hexagon = 2.598 \times s^2$	$Area\ of\ a\ trapezoid = \frac{b_1 + b_2}{2} \times H$
$Area\ of\ an\ octagon = 4.828 \times s^2$	$Area\ of\ a\ sector = \pi r^2 \times \frac{degrees}{360°}$
$Area\ of\ a\ regular\ polygon = \frac{perimeter\ \times apothem}{2}$	

NOTE Do **not** bring this document to your exam.
These formulas will be included in the exam reference materials.

Lateral Area (L.A.) and Surface Area (S.A.)	
$L.A. of\ a\ cube = area\ of\ one\ face \times 4$	$L.A. of\ a\ rectangular\ solid = perimeter \times H$
$L.A. of\ a\ cylinder = \pi dh$	$L.A. of\ a\ pyramid/cone = \frac{perimeter \times S.H.}{2}$
$L.A. of\ frustums = Average\ perimeter \times S.H.$	
$S.A. of\ a\ torus\ ring = average\ diameter\ of\ torus \times \pi \times circumference\ of\ cross\ section$	
$S.A. of\ a\ sphere = 4\pi r^2$	$S.A. of\ a\ sphere = 12.566 \times\ r^2$

Volume	
$Volume\ of\ a\ cube = s^3$	$Volume\ of\ a\ rectangular\ solid = L \times W \times H$
$Volume\ of\ a\ cylinder =\ \pi r^2 h$	$Volume\ of\ a\ pyramid/cone = \frac{area\ of\ base \times H}{3}$
$Volume\ of\ a\ sphere = \frac{4\pi r^3}{3}$	$Volume\ of\ a\ sphere = 4.189 \times r^3$
$Volume\ of\ a\ torus\ ring = length\ of\ torus \times area\ of\ cross\ section$	
$Volume\ of\ a\ torus\ ring = \pi d \times \pi r^2$	
$Volume\ of\ frustums = \frac{H(B + b + \sqrt{B\ \times b})}{3}$ $B = area\ of\ big\ base$ $b = area\ of\ little\ base$	

Mitres
$Mitre = \frac{\left(CLR \pm \frac{1}{2} OD\right) \times 1.57}{\#\ of\ mitres}$

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