Massachusetts Comprehensive Assessment System
Grade 10 Mathematics Reference Sheet

AREA FORMULAS

triangle .....$A = \frac{1}{2}bh$

rectangle .....$A = bh$

square .....$A = s^2$

trapezoid.....$A = \frac{1}{2}h(b_1 + b_2)$

CIRCLE FORMULAS

$C = 2\pi r$
$A = \pi r^2$

VOLUME FORMULAS

cube.....$V = s^3$
(s = length of an edge)

rectangular prism .....$V = lwh$

OR

$V = Bh$

(B = area of the base)

sphere.....$V = \frac{4}{3}\pi r^3$

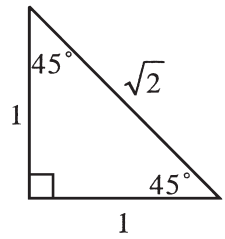
right circular cylinder .....$V = \pi r^2 h$

right circular cone.....$V = \frac{1}{3}\pi r^2 h$

right square pyramid.....$V = \frac{1}{3}s^2 h$

LATERAL SURFACE AREA FORMULAS

rectangular prism .....$LA = 2(hw) + 2(lh)$
right circular cylinder .....$LA = 2\pi rh$
right circular cone.....$LA = \pi r\ell$
right square pyramid .....$LA = 2s\ell$
(ℓ = slant height)



TOTAL SURFACE AREA FORMULAS

cube .....$SA = 6s^2$
rectangular prism.....$SA = 2(lw) + 2(hw) + 2(lh)$
sphere.....$SA = 4\pi r^2$
right circular cylinder .....$SA = 2\pi r^2 + 2\pi rh$
right circular cone.....$SA = \pi r^2 + \pi r\ell$
right square pyramid.....$SA = s^2 + 2s\ell$
(ℓ = slant height)