

Massachusetts Comprehensive Assessment System Grade 10 Mathematics Reference Sheet

AREA FORMULAS

- square $A = s^2$
- rectangle $A = bh$
- parallelogram $A = bh$
- triangle $A = \frac{1}{2}bh$
- trapezoid $A = \frac{1}{2}h(b_1 + b_2)$
- circle $A = \pi r^2$

LATERAL SURFACE AREA FORMULAS

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

TOTAL SURFACE AREA FORMULAS

- cube $SA = 6s^2$
- right 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 $SA = \pi r^2 + \pi r\ell$
 (ℓ = slant height)
- right square pyramid $SA = s^2 + 2s\ell$
 (ℓ = slant height)

VOLUME FORMULAS

- cube $V = s^3$
 (s = length of an edge)
- right rectangular prism $V = lwh$
- OR
- $V = Bh$
 (B = area of a 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 $V = \frac{1}{3}s^2 h$

CIRCLE FORMULAS

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

SPECIAL RIGHT TRIANGLES

