



## Massachusetts Comprehensive Assessment System Grade 10 Mathematics Reference Sheet

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### 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 .....  $V = \pi r^2h$

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

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

### LATERAL SURFACE AREA FORMULAS

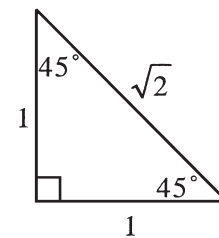
rectangular prism .....  $LA = 2(hw) + 2(lh)$

right circular cylinder .....  $LA = 2\pi rh$

right circular cone .....  $LA = \pi r\ell$

right square pyramid .....  $LA = 2s\ell$

( $\ell$  = 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 .....  $SA = s^2 + 2s\ell$

( $\ell$  = slant height)

