Applied Mathematics Formula Sheet

Distance
1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile ≈ 1.61 kilometers
1 inch = 2.54 centimeters
1 foot = 0.3048 meters
1 meter = 1,000 millimeters
1 meter = 100 centimeters
1 kilometer = 1,000 meters
1 kilometer ≈ 0.62 miles

Area
1 square foot = 144 square inches
1 square yard = 9 square feet
1 acre = 43,560 square feet

Volume
1 cup = 8 fluid ounces
1 quart = 4 cups
1 gallon = 4 quarts
1 gallon = 231 cubic inches
1 liter ≈ 0.264 gallons
1 cubic foot = 1,728 cubic inches
1 cubic yard = 27 cubic feet
1 board foot = 1 inch by 12 inches by 12 inches

Weight
1 ounce ≈ 28.350 grams
1 pound = 16 ounces
1 pound ≈ 453.592 grams
1 milligram = 0.001 grams
1 kilogram = 1,000 grams
1 kilogram ≈ 2.2 pounds
1 ton = 2,000 pounds

Rectangle
perimeter = $2(\textit{length} + \textit{width})$
area = $\textit{length} \times \textit{width}$

Rectangular Solid (Box)
volume = $\textit{length} \times \textit{width} \times \textit{height}$

Cube
volume = $(\textit{length of side})^3$

Triangle
sum of angles = 180°
area = $\frac{1}{2}(\textit{base} \times \textit{height})$

Circle
number of degrees in a circle = 360°
circumference ≈ $3.14 \times \textit{diameter}$
area ≈ $3.14 \times (\textit{radius})^2$

Cylinder
volume ≈ $3.14 \times (\textit{radius})^2 \times \textit{height}$

Cone
volume ≈ $\dfrac{3.14 \times (\textit{radius})^2 \times \textit{height}}{3}$

Sphere (Ball)
volume ≈ $\frac{4}{3} \times 3.14 \times (\textit{radius})^3$

Electricity
1 kilowatt-hour = 1,000 watt-hours
amps = watts ÷ volts

Temperature
$°C = 0.56(°F - 32)$ or $\frac{5}{9}(°F - 32)$
$°F = 1.8(°C) + 32$ or $(\frac{9}{5} \times °C) + 32$

NOTE: Problems on the WorkKeys *Applied Mathematics* assessment should be worked using the formulas and conversions on this formula sheet.