

COLLECTION SYSTEM MAINTENANCE
ALL GRADE LEVELS
EQUIVALENTS AND FORMULAS

- 12 inches = 1 foot
- 36 inches = 3 feet = 1 yard
- 5,280 feet = 1 mile
- 1,440 minutes = 1 day = 24 hours.
- 144 square inches = 1 square foot
- 9 square feet = 1 square yard
- 43,560 square feet = 1 acre
- 1,728 cubic inches = 1 cubic foot
- 27 cubic feet = 1 cubic yard
- 1 cubic foot of water contains 7.48 gallons
- 1 cubic foot of water weighs 62.4 pounds
- 1 gallon of water weighs 8.34 pounds
- 1 million gallons per day (mgd) = 694 gallons per minute (gpm)
- 1 million gallons per day (mgd) = 1.55 cubic feet per second (cfs)
- 1 horse power = 0.746 kilowatts (kw)

Assume 100 gallons per capita (person) per day (gpcd) for average daily water flow for all problems.

Flow:	$Q = AV$	Q	=	Flow
Area:	Rectangle: $A = LW$	A	=	Area
	Circle: $A = 0.785D^2$	V	=	Velocity
		L	=	Length
		W	=	Width
		D	=	Diameter
		A	=	Area
Circumference of a circle:	$C = 3.14D$	C	=	Circumference
		D	=	Diameter
Volume:	Rectangular Solid: $Vol = LWD$	Vol	=	Volume
	Right Regular Cylinder: $Vol = 0.785D^2L$	d	=	Depth
	OR pR^2L	D	=	Diameter
		W	=	Width
		L	=	Length
		<u>Rise</u>	=	Slope
		Run		