

Sheet Metal Worker Harmonized Level 1, Level 2, and Level 3

FORMULAS

$$12 \text{ in.} = 1 \text{ ft.}$$

$$3 \text{ ft.} = 1 \text{ yd.}$$

$$144 \text{ sq. in.} = 1 \text{ sq. ft.}$$

$$1,728 \text{ cu. in.} = 1 \text{ cu. ft.}$$

$$27 \text{ cu. ft.} = 1 \text{ cu. yd.}$$

$$25.4 \text{ mm} = 1 \text{ in.}$$

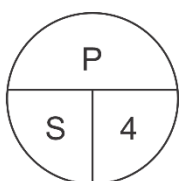
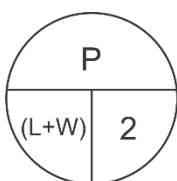
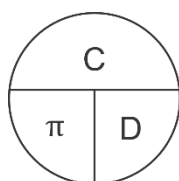
$$1 \text{ gal} = 277 \text{ cu. in.}$$

$$a^2 + b^2 = c^2$$

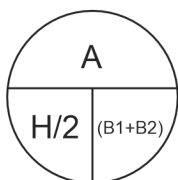
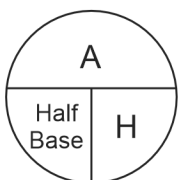
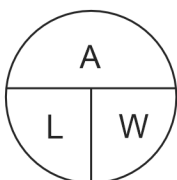
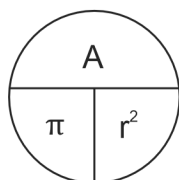
$$c^2 - b^2 = a^2$$

$$C = (F - 32)/1.8$$

$$F = (C \times 1.8) + 32$$

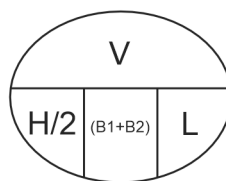
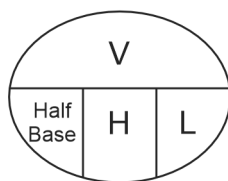
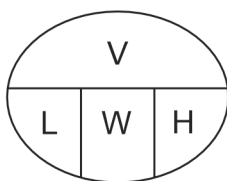
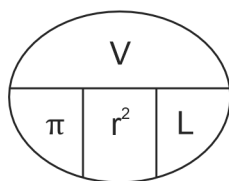


$$P = (\pi D) + (2 \times W)$$



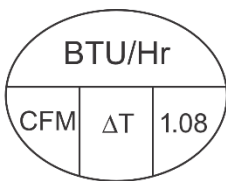
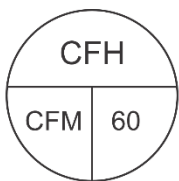
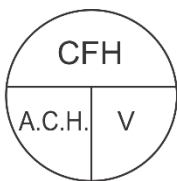
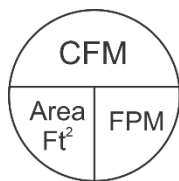
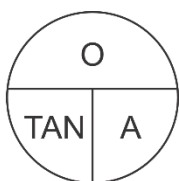
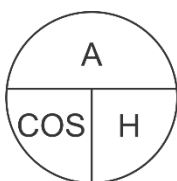
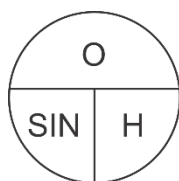
$$A = S^2$$

$$A = (\pi r^2) + (D \times W)$$



$$V = S^3$$

$$V = [(\pi r^2) + (D \times W) \times L]$$



$$FPM = 4,005\sqrt{VP}$$

$$V.P. = (FPM/4,005)^2$$

$$T.P. = S.P. + V.P.$$

$$W.L. = \frac{(4\sqrt{O^2 + L^2}) - L}{3}$$

$$M.A. = \frac{\text{Degree of Elbow}}{(\# \text{ pieces} \times 2 - 2)}$$

$$A.H. = \frac{VH \times D}{(D - d)}$$

$$R.P. = \frac{O^2 + L^2}{(4 \times O)}$$

$$S.H. = \text{MitreAngleTan} \times CLR$$

$$S.L. = \sqrt{AH^2 + (D/2)^2}$$

$$V.S.O. = \text{Seam Height} \times (\#Pcs \times 2 - 2) \quad P.A. = \frac{180^\circ \times \text{Diameter}}{\text{Slant Length}}$$

$$R.R. = \text{MitreAngleTan} \times \text{Pipe Radius}$$

$$C.L. = \text{SIN}(\text{pattern angle}/2) \times \text{Slant Length} \times 2$$

$$E.A. = (O/L)\text{TAN}^{-1} \times 2$$

$$A.L. = 1\text{SIN} \times \text{radius} \times \# \text{ of degrees}$$

$$CFM / RPM / MOTOR \phi = \frac{NEW}{OLD} \times OLD$$

$$SP = \left(\frac{NEW}{OLD}\right)^2 \times OLD$$

$$BHP = \left(\frac{NEW}{OLD}\right)^3 \times OLD$$

NOTE

Do **not** bring this document to your exam.

These formulas will be included in the exam reference materials.