

Parts of the Cubit, and related lengths

Parts of the cubit, using π , ϕ , e , Royal Cubit \mathcal{C} , Grand Metre \mathcal{M} , and roots/squares/cubes
 All based on a circle with diameter 1 metre

In formulas below, see π as being a length of 3.14159... metres, not just the number pi.
 Similarly with ϕ and e .

Unless otherwise specified, all subdivisions are in “Egyptian” units, so one Foot is one Egyptian Foot, etc.

$$\mathcal{M} = 1 + \mathcal{C} = 1 + \frac{\pi}{6} m$$

Length	Value	Formula	Value
Digit	0.01875 m	$\frac{\mathcal{M}}{16 \pi \phi}$	0.01873 m
		$\frac{\pi}{64 \phi^2}$	0.01875 m
		$\frac{3 \phi e}{224 \pi}$	0.01875 m
		$\frac{1}{16} \left(\frac{\sqrt{\pi^2 + \phi^2}}{e} - 1 \right)$	0.01875 m
Palm	0.0750 m	$\frac{\mathcal{M}}{4 \pi \phi}$	0.0749 m
		$\frac{\mathcal{M}}{9 \sqrt{\pi \phi}}$	0.0751 m
		$\frac{\pi}{16 \phi^2}$	0.0750 m
		$\frac{3 \phi e}{56 \pi}$	0.0750 m
		$\frac{1}{4} \left(\frac{\sqrt{\pi^2 + \phi^2}}{e} - 1 \right)$	0.0750 m
Hand	0.0938 m		= five Digits
		$\sqrt{\frac{\mathcal{M}}{100 \sqrt{3}}}$	0.0938 m
		$\frac{5 \pi}{64 \phi^2}$	0.0938 m
		$\frac{15 \phi e}{224 \pi}$	0.0938 m

Length	Value	Formula	Value
Foot	0.3000 m	$\frac{M}{\pi\phi}$	0.2997 m
		$\frac{4M}{9\sqrt{\pi\phi}}$	0.3003 m
		$\frac{\sqrt[3]{3}\sqrt[3]{5}}{6e\phi^2}$	0.2999 m
		$\frac{e}{12e\sqrt[3]{3}}$	0.3000 m
		$\frac{\pi}{4\phi^2}$	0.3000 m
		$\frac{3\phi e}{14\pi}$	0.3000 m
		$\frac{\sqrt{\pi^2+\phi^2}}{e} - 1$	0.3000 m
Remen	0.3703 m	$\frac{e}{\sqrt{2}}$	0.3702 m
		$\frac{\pi}{6\sqrt{2}}$	0.3702 m
		$\frac{28\phi\pi}{100e\sqrt{2}}$	0.3702 m
	0.3750 m		= 20 Digits
		$\frac{5\pi}{16\phi^2}$	0.3750 m
		$\frac{15\phi e}{56\pi} = \frac{(7+8)\phi e}{(7\times 8)\pi}$	0.3750 m

Length	Value	Formula	Value
Cubit (standard)	± 0.4500 m	$\frac{3M}{2\pi\phi}$	0.4496 m
		$\frac{2M}{3\sqrt{\pi\phi}}$	0.4505 m
		$\frac{3\pi}{8\phi^2}$	0.4500 m
		$\frac{9\phi e}{28\pi}$	0.4500 m
Pole	0.6000 m		= 2 Foot
		$\frac{2M}{\pi\phi}$	0.5995 m
		$\frac{M}{2\sqrt{\phi}}$	0.5989 m
		$\frac{2\sqrt[3]{3}\sqrt[3]{5}}{6\phi^2}$	0.5997 m
		$\frac{e}{6\phi\sqrt[3]{3}}$	0.5999 m
		$\frac{\pi}{2\phi^2}$	0.6000 m
		$\frac{3\phi e}{7\pi}$	0.6000 m
		$2\left(\frac{\sqrt{\pi^2 + \phi^2}}{e} - 1\right)$	0.6000 m
Nby-Rod	0.67 – 0.68 m	$\frac{4M}{9}$	0.6772 m
		$\frac{5\pi}{9\phi^2}$?	0.6667 m ?
		Foot x $\sqrt{\pi\phi}$	0.6764 m
		Cubit x $\frac{2\sqrt{\pi\phi}}{3}$	0.6764 m
		$\frac{27\phi e}{56\pi}$	0.6750 m
			= 36 digits
		$36\frac{3\phi e}{224\pi}$ (e.g.)	0.6750 m

Length	Value	Formula	Value
4 Feet	1.2000 m	$\frac{\pi}{\phi^2}$	1.2000 m
?	1.3000 m	$\frac{\sqrt{\pi^2 + \phi^2}}{e}$	1.3000 m
7 Wroft	1.4000 m	$\frac{\phi e}{\pi}$	1.4000 m
English foot	0.3048 m	$\frac{M}{5}$	03047 m
		$\frac{1.524}{5}$	0.3048 m
Five English feet	60" = 1.5240 m	$1 + \frac{\pi}{6} = M$	1.5236 m
Persian foot	0.32004 m	$\frac{M}{(\pi + \phi)}$	0.32011 m
Doric order foot	±0.324 m	$\frac{\pi}{6\phi} = \frac{E}{\phi}$	0.3236 m
Luwian foot	±0.323 m	$\frac{\pi}{6\phi} = \frac{E}{\phi}$	0.3236 m
Attic foot	0.3084 m	$\sqrt{\frac{M}{16}}$?	0.3086m ?
Minoan foot	+ -0.304 m	$\frac{M}{5}$	0.3047 m
Athenian foot	±0.315 m	$\frac{\pi}{10}$	0.3142 m
Phoenician foot	0.3000 m	$\frac{\pi}{4\phi^2}$	0.3000 m
Nautical mile	1852 m (currently)	$100 \pi \phi \left(\frac{1}{E}\right)^2$	1854.1 m
		$100 \pi \phi \left(\frac{1}{0.524}\right)^2$	1851.3 m
		$\frac{3600 \phi}{\pi}$	1854.1 m