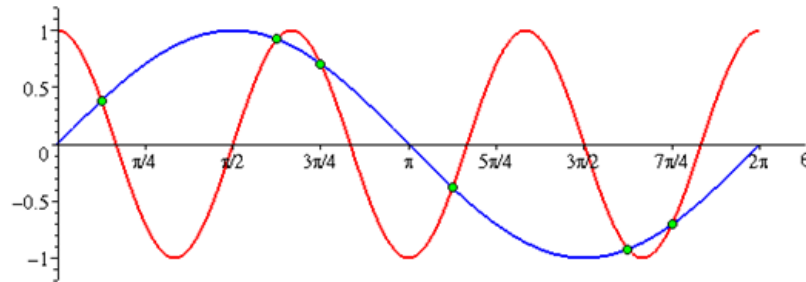


Chapter 8

Modeling Trigonometric Situations (Trig Graphing)



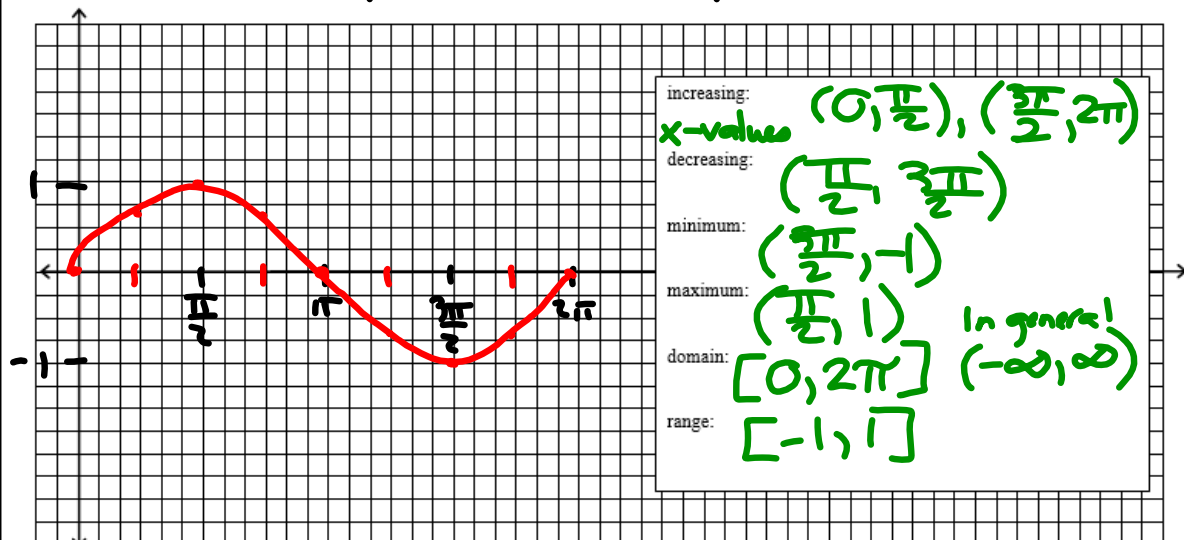
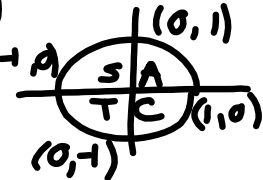
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Day 1: Basic Sine, Cosine & Tangent Graphs

$$f(x) = \sin(x)$$

$(0,0)$ QI $(0,1)$ QII $(-1,0)$ QIII $(0,-1)$ QIV $(1,0)$

Radians (x)	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π	$\frac{5\pi}{4}$	$\frac{3\pi}{2}$	$\frac{7\pi}{4}$	2π
Degrees (x)	0		90°		180°		270°		360°
Exact Value (y)									
Decimal (y)	0	.7	1	.7	0	-.7	-1	-.7	0



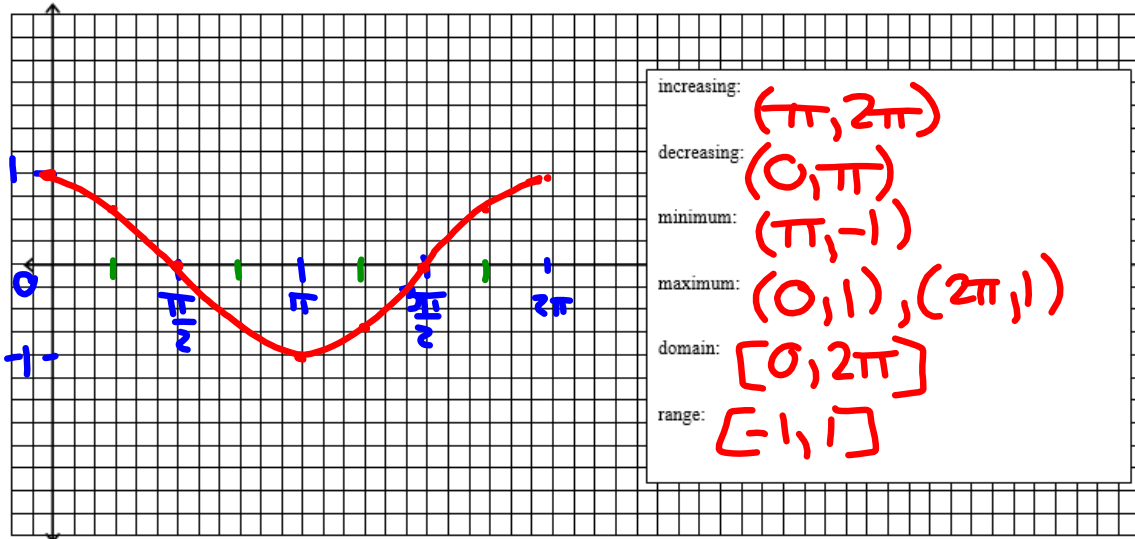
6:4

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$f(x) = \cos(x)$

$(1,0)$ QI $(0,1)$ QII $(-1,0)$ $QIII$ $(0,-1)$ QIV $(1,0)$

Radians	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π	$\frac{5\pi}{4}$	$\frac{3\pi}{2}$	$\frac{7\pi}{4}$	2π
Degrees	0°	45°	90°	135°	180°	225°	270°	315°	360°
Exact Value									
Decimal	1	.7	0	-.7	-1	-.7	0	.7	1



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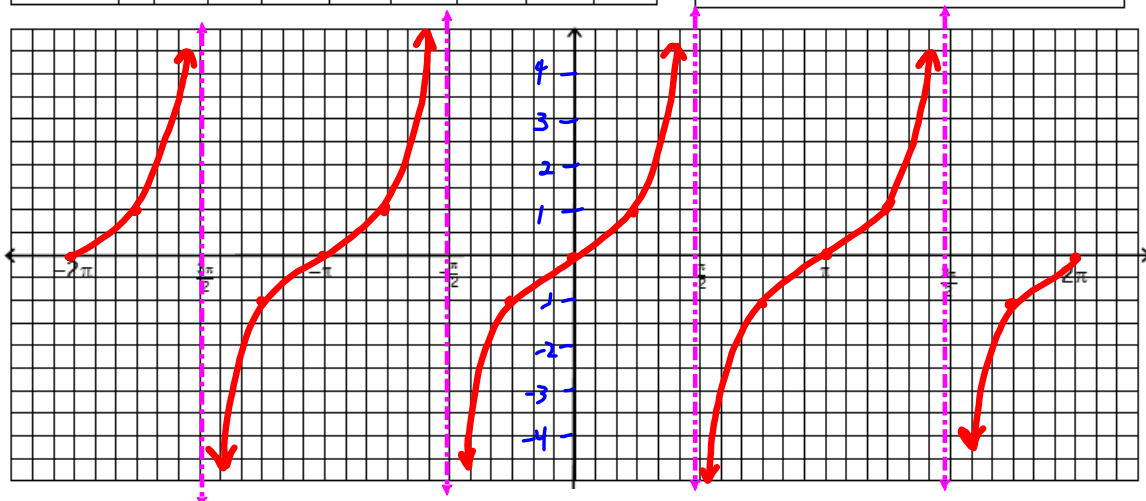
$f(x) = \tan(x)$

QI QII $QIII$ QIV

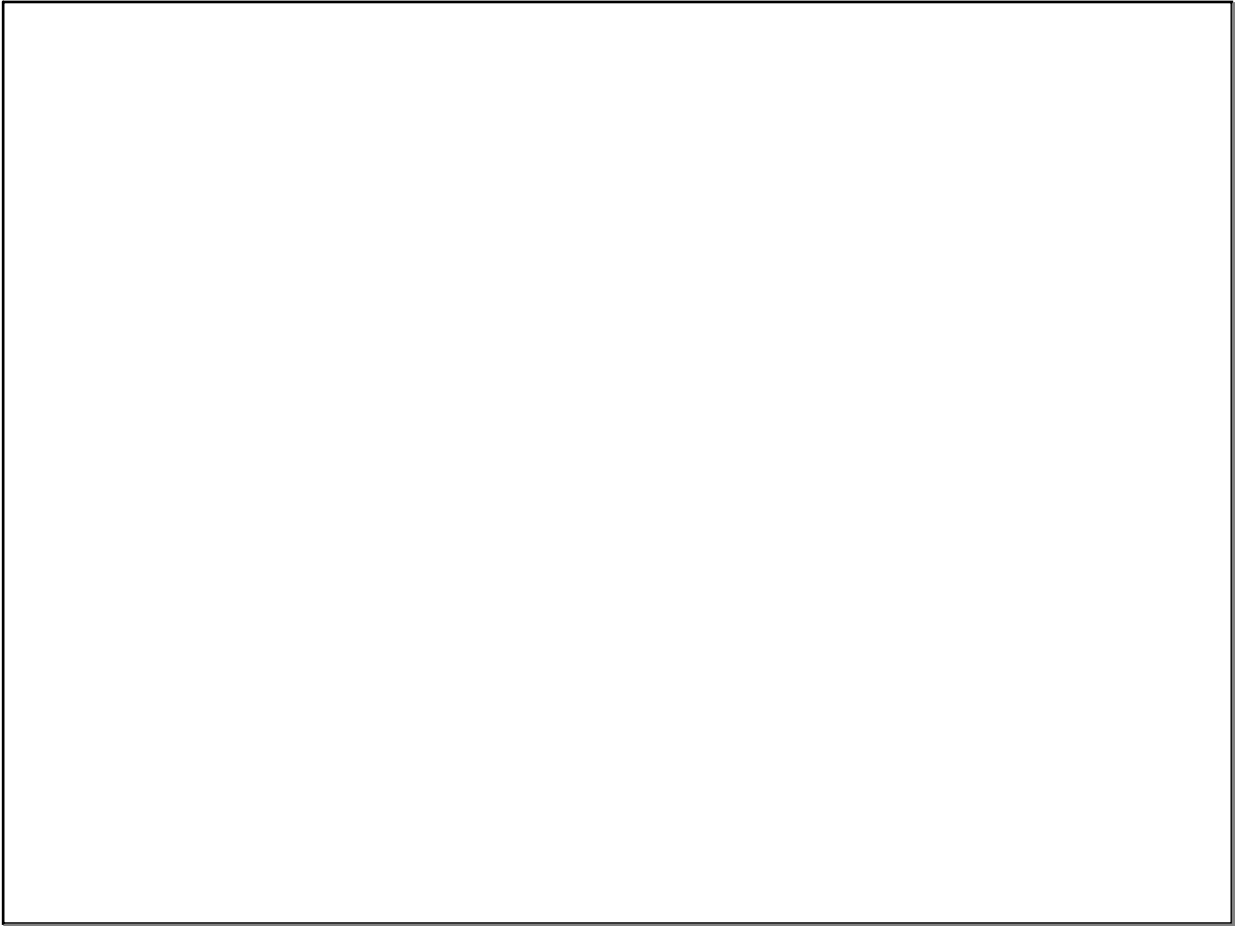
Radians	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π	$\frac{5\pi}{4}$	$\frac{3\pi}{2}$	$\frac{7\pi}{4}$	2π
Degrees	0°	45°	90°	135°	180°	225°	270°	315°	360°
Exact Value	0	1	undef	-1	0	1	undef	-1	0
Decimal									

Radians	0	$-\frac{\pi}{4}$	$-\frac{\pi}{2}$	$-\frac{3\pi}{4}$	$-\pi$	$-\frac{5\pi}{4}$	$-\frac{3\pi}{2}$	$-\frac{7\pi}{4}$	-2π
Degrees	0°	-45°	-90°	-135°	-180°	-225°	-270°	-315°	-360°
Exact Value	0	-1	undef	1	0	-1	undef	1	0
Decimal									

increasing: always, except odd $\frac{\pi}{2}$'s
 decreasing: Never
 minimum: None
 maximum: None
 domain: $\{x | x \in \mathbb{R}, \text{except odd } \frac{\pi}{2}\text{'s}\}$
 range: $\{y | y \in \mathbb{R}\}$



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