1. Is each pair of angles coterminal?

a) $-372°$ and $1068°$

$$\frac{1068 - -372}{360} = 4 \quad \text{yes.}$$

b) $\frac{17\pi}{12}$ and $\frac{77\pi}{12}$

$$\frac{77\pi}{12} - \frac{17\pi}{12} = 5\pi$$

NO.

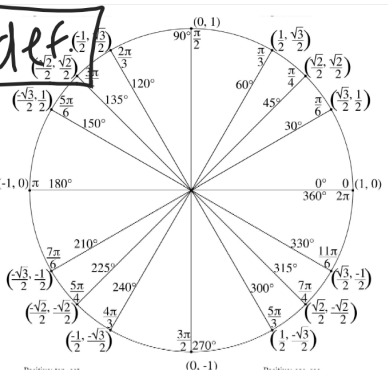
2. Find the exact value of each.

a) $\tan\frac{-15\pi}{2} + \frac{4\pi}{2}$ undef.

$\tan\frac{\pi}{2}$ $\frac{y}{x}$ $\frac{1}{0}$

b) $\cos\frac{157\pi}{6} - \frac{12\pi}{6}$ $\boxed{\frac{\sqrt{3}}{2}}$

$\cos\frac{\pi}{6}$



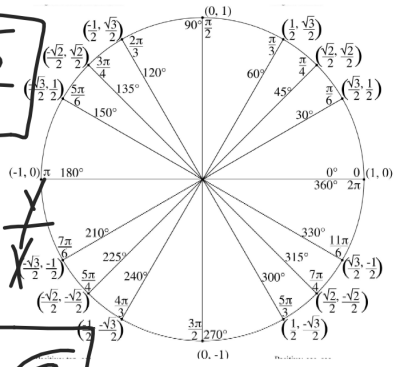
2. Find the exact value of each.

c) $\sin(-2580°)$

Sin 300° $\boxed{\frac{-\sqrt{3}}{2}}$

d) $\tan\frac{41\pi}{3}$ $\tan\frac{5\pi}{3}$

$\frac{-\sqrt{3}}{\frac{2}{1}} \cdot \frac{2}{2}$ $\boxed{= -\sqrt{3}}$



3. Given $\cos\theta > 0$ and $\sin\theta = \frac{\sqrt{2}}{2}$ find $\tan\theta$

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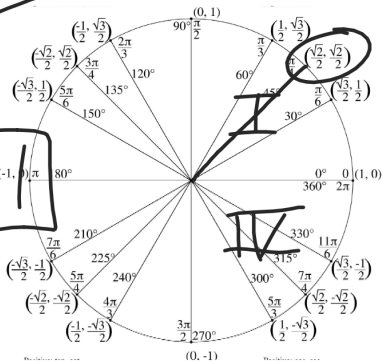
$\tan 45°$

$\frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$



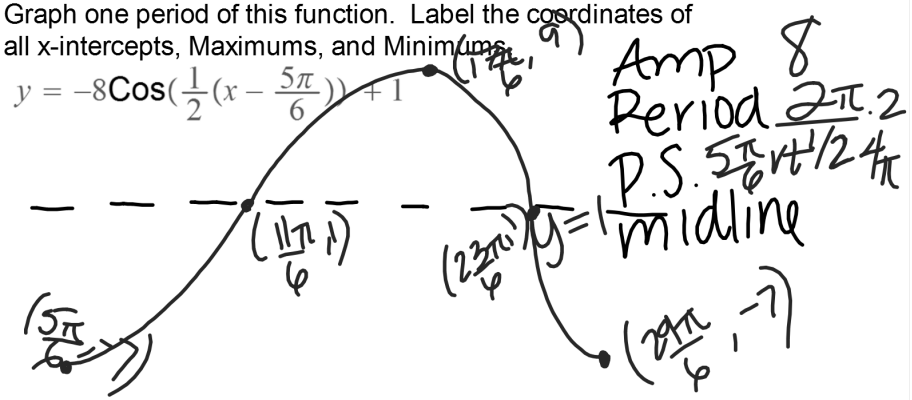
4. Find both a positive and negative coterminal angle for each.

$\theta = 2176°$ POS. $1816°$ $2536°$ $16°$ NEG $-344°$ $-704°$

$\theta = \frac{-62\pi}{15}$ $\pm\frac{2\pi}{15}$ .15 1.15 POS $\frac{28\pi}{15}$ NEG $\frac{-32\pi}{15}$

Graph one period of this function. Label the coordinates of all x-intercepts, Maximums, and Minimums.

$y = -8\text{Cos}(\frac{1}{2}(x - \frac{5\pi}{6})) + 1$



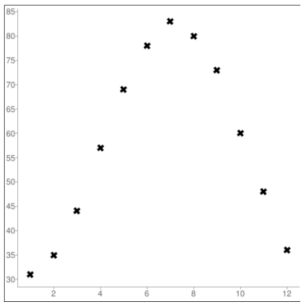
A lot of things in the real-world are cyclic (Periodic).

- Tides
- Temperatures
- Amount of Sunlight
- position of a piston in an engine

Average Montly Temperature
Detroit, Michigan

Make a scatter plot on the graphing calculator of this data.

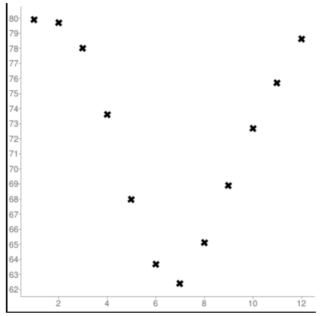
L_1 Month	L_2 Average High Temp $°F$
Jan → 1	31
Feb → 2	35
March → 3	44
April → 4	57
May → 5	69
June → 6	78
July → 7	83
Aug → 8	80
Sept → 9	73
Oct → 10	60
Nov → 11	48
Dec → 12	36



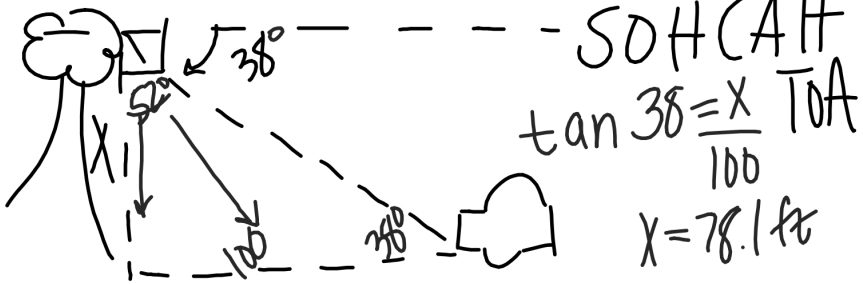
Average Montly Temperature
Sydney, Australia

Make a scatter plot on the graphing calculator of this data.

	L_1	L_2
	Month	Average High Temp $°F$
	Jan → 1	79.9
	Feb → 2	79.7
	March → 3	78
	April → 4	73.6
	May → 5	68
	June → 6	63.7
	July → 7	62.4
	Aug → 8	65.1
	Sept → 9	68.9
	Oct → 10	72.7
	Nov → 11	75.7
	Dec → 12	78.6



A tree trimmer is up in a tree and sees his truck with an angle of depression of 38°. If his truck is parked 100 feet from the tree, how high up in the tree is he? Round to the nearest tenth.

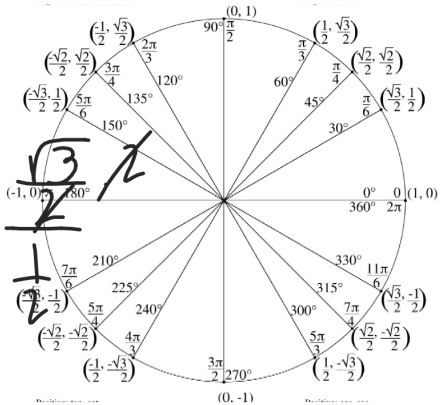


Find the EXACT value of each. Rationalize denominators and simplify fractions.

1. $\cos\frac{43\pi}{4}$ $\quad -\frac{2\pi}{1}\cdot\frac{4}{4} = -\frac{8\pi}{4}$ $\quad \frac{3\pi}{4}$ $\quad -\frac{\sqrt{2}}{2}$

2. $\tan(-2040°)$ $\quad \tan 120 = \frac{\sqrt{3}}{-1}$ $\quad \frac{\sqrt{3}}{2}\cdot\frac{2}{-1}$ $\quad -\sqrt{3}$

3. $\sin\left(\frac{-29\pi}{3}\right)$ $\quad \sin\frac{\pi}{3}$ $\quad \frac{\sqrt{3}}{2}$

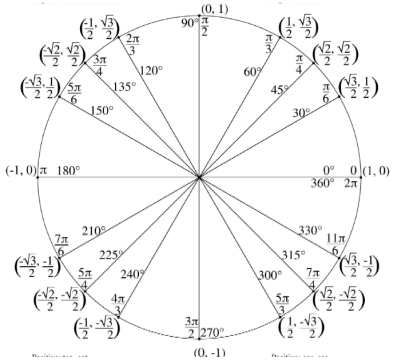


Find the exact value of each.

a) $\tan(-1830°)$

b) $\sin\frac{95\pi}{6}$

c) $\cos\frac{-59\pi}{4}$



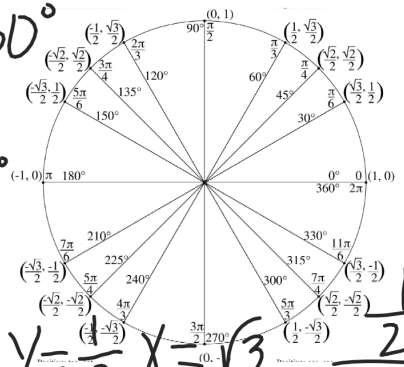
Find all values of θ (0° ≤θ≤360°) that meet the following conditions.

4. $\sin\theta = \frac{-1}{2}$ 210°, 330°

5. $\cos\theta = \frac{\sqrt{3}}{2}$ 30°, 330°

6. $\tan\theta = \frac{\sqrt{3}}{3}$ $\frac{Y}{X} = \frac{\sqrt{3}}{3}$ $Y = \frac{1}{2}$ $X = \frac{\sqrt{3}}{2}$ 30° 210°

$\frac{1}{2}$ $\frac{\sqrt{3}}{2}$ $\frac{1}{\frac{\sqrt{3}}{2}}$ $\frac{1}{2} \cdot \frac{2}{\sqrt{3}}$ $\frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$



Given $\tan\theta = -\sqrt{3}$ and $\sin = \frac{\sqrt{3}}{2}$ find θ.

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120°