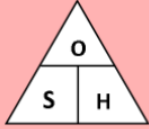
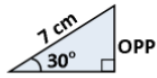


**SOH**



$$\sin = \frac{\text{OPPOSITE}}{\text{HYPOTENUSE}}$$

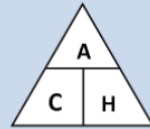


$$\sin 30 = \frac{\text{OPP}}{7}$$

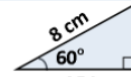
$$\sin 30 \times 7 = \text{OPP}$$

$$\text{OPP} = 3.5 \text{ cm}$$

**CAH**



$$\cos = \frac{\text{ADJACENT}}{\text{HYPOTENUSE}}$$

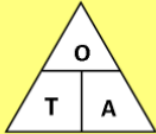


$$\cos 60 = \frac{\text{ADJ}}{8}$$

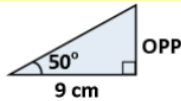
$$\cos 60 \times 8 = \text{ADJ}$$

$$\text{ADJ} = 4 \text{ cm}$$

**TOA**



$$\tan = \frac{\text{OPPOSITE}}{\text{ADJACENT}}$$

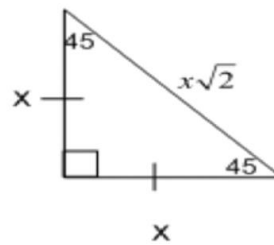


$$\tan 50 = \frac{\text{OPP}}{9}$$

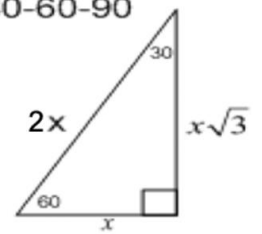
$$\tan 50 \times 9 = \text{OPP}$$

$$\text{OPP} = 10.7 \text{ cm}$$

45 - 45 - 90



30-60-90



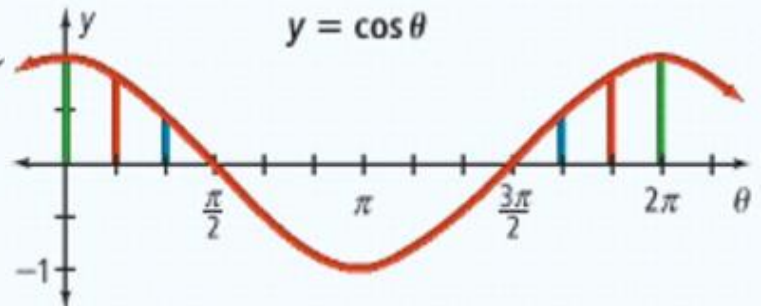
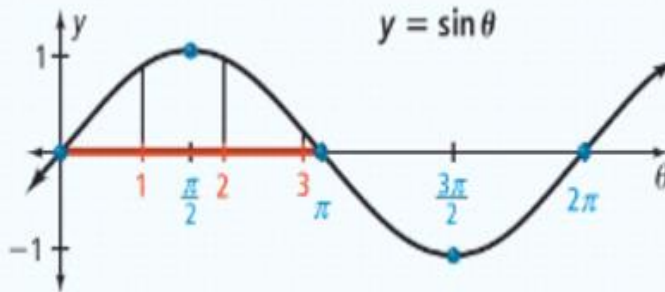
$$\text{Radians} = \left( \frac{\pi}{180^\circ} \right) \times \text{degrees}$$

$$\text{Degrees} = \left( \frac{180^\circ}{\pi} \right) \times \text{radians}$$

$$\sin \theta = \frac{y}{1} = y \quad \csc \theta = \frac{1}{y}$$

$$\cos \theta = \frac{x}{1} = x \quad \sec \theta = \frac{1}{x}$$

$$\tan \theta = \frac{y}{x} \quad \cot \theta = \frac{x}{y}$$



$$y = a \sin b\theta \quad y = a \cos b\theta$$

**Amplitude:** Half the difference of the maximum and minimum values of the graph

**Cycle:** One complete pattern in a graph

**Period:** How long it takes to complete a cycle before the pattern repeats itself

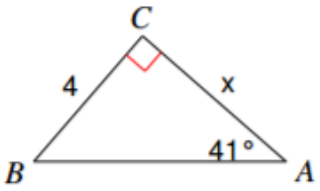
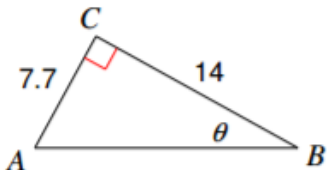
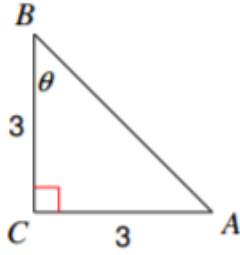
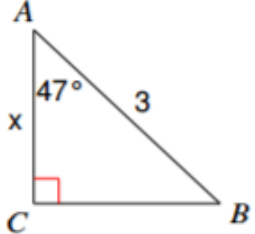
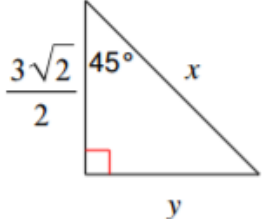
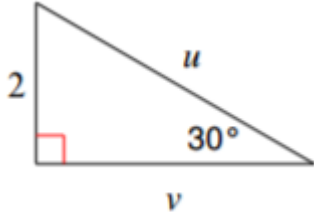
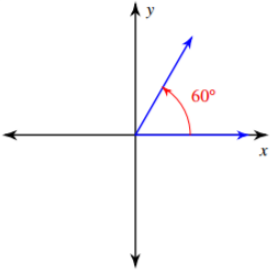
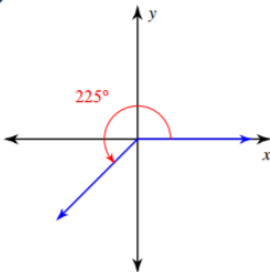
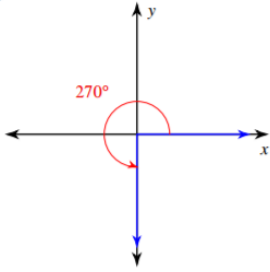
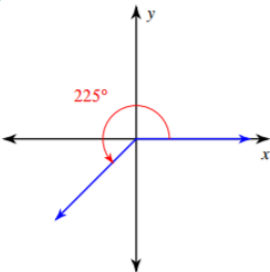
1.  $|a|$  is the amplitude

2.  $b$  is the number of cycles in the interval from 0 to  $2\pi$  or  $360^\circ$  (frequency)

3.  $\frac{2\pi}{b}$  is the period

**Unit 1 Practice**

**Name:**

<p>1. Find <math>x</math></p> 	<p>2. Find <math>\theta</math></p> 	<p>3. Find <math>\theta</math></p> 	<p>4. Find <math>x</math></p> 
<p>5. Solve for <math>x</math> and <math>y</math></p> 	<p>6. Solve for <math>u</math> and <math>v</math></p> 	<p>7. Convert into degrees</p> <p><math>-945^\circ</math></p> <p><math>315^\circ</math></p> <p><math>-520^\circ</math></p>	<p>8. Convert into radians</p> <p><math>-\frac{13\pi}{4}</math></p> <p><math>\frac{11\pi}{6}</math></p>
<p>9. Find the exact value <math>\tan \theta</math></p> 	<p>10. Find the exact value <math>\sin \theta</math></p> 	<p>11. Find the exact value <math>\cos \theta</math></p> 	<p>12. Find the exact value <math>\tan \theta</math></p> 
<p>13. Find the exact value <math>\cos 270^\circ</math></p>	<p>14. Find the exact value <math>\cot \frac{7\pi}{4}</math></p>	<p>15. Find the exact value <math>\csc \frac{2\pi}{3}</math></p>	<p>16. Find the exact value <math>\cos -630^\circ</math></p>
<p>17. Find the exact value <math>\tan -\frac{13\pi}{6}</math></p>	<p>18. Find the exact value <math>\csc -\frac{31\pi}{6}</math></p>	<p>19. Find the exact value <math>\csc -\frac{5\pi}{6}</math></p>	<p>20. Find the exact value <math>\cos -\frac{11\pi}{2}</math></p>
<p>21. Determine the amplitude and period <math>y = \sin 4x</math></p>	<p>22. Determine the amplitude and period <math>y = 3 \cos (-2x)</math></p>		

