

Unit 5.2 Graph Amplitude & Period change (Sin & Cos) PRACTICE

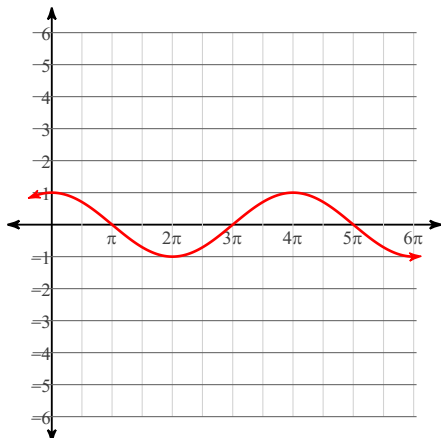
Period _____

Find the amplitude, the period in radians, the minimum and maximum values, and the transformations required to obtain the graph starting with a basic trig function.

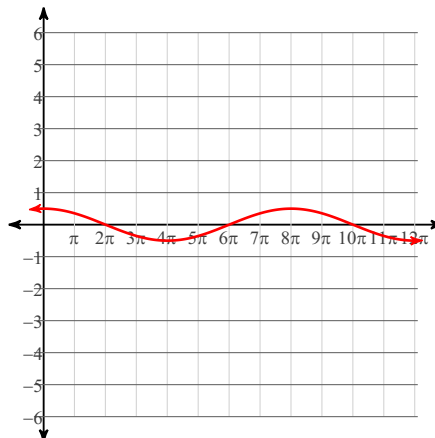
- 1) $y = 7\cos \frac{\theta}{8}$
- Amp: **Amplitude: 7**
 Period: **Period: 16π**
 Min: **Min: -7**
 Max: **Max: 7**
 Transformation: **Transformations:**
Starting with $\cos \theta$,
vertically stretch by 7,
horizontally stretch
by 8
- 2) $y = 4\cos 2\theta$
- Amp: **Amplitude: 4**
 Period: **Period: π**
 Min: **Min: -4**
 Max: **Max: 4**
 Transformation: **Transformations:**
Starting with $\cos \theta$,
vertically stretch by 4,
horizontally shrink by
 $\frac{1}{2}$
- 3) $y = \frac{1}{4} \cdot \sin \theta$
- Amp: **Amplitude: $\frac{1}{4}$**
 Period: **Period: 2π**
 Min: **Min: $-\frac{1}{4}$**
 Max: **Max: $\frac{1}{4}$**
 Transformation: **Transformations:**
Starting with $\sin \theta$,
vertically shrink by $\frac{1}{4}$
- 4) $y = 3\cos 7\theta$
- Amp: **Amplitude: 3**
 Period: **Period: $\frac{2\pi}{7}$**
 Min: **Min: -3**
 Max: **Max: 3**
 Transformation: **Transformations:**
Starting with $\cos \theta$,
vertically stretch by 3,
horizontally shrink by
 $\frac{1}{7}$
- 5) $y = \frac{1}{2} \cdot \sin 5\theta$
- Amp: **Amplitude: $\frac{1}{2}$**
 Period: **Period: $\frac{2\pi}{5}$**
 Min: **Min: $-\frac{1}{2}$**
 Max: **Max: $\frac{1}{2}$**
 Transformation: **Transformations:**
Starting with $\sin \theta$,
vertically shrink by $\frac{1}{2}$,
horizontally shrink by
 $\frac{1}{5}$
- 6) $y = 6\cos 7\theta$
- Amp: **Amplitude: 6**
 Period: **Period: $\frac{2\pi}{7}$**
 Min: **Min: -6**
 Max: **Max: 6**
 Transformation: **Transformations:**
Starting with $\cos \theta$,
vertically stretch by 6,
horizontally shrink by
 $\frac{1}{7}$

Graph each function using radians.

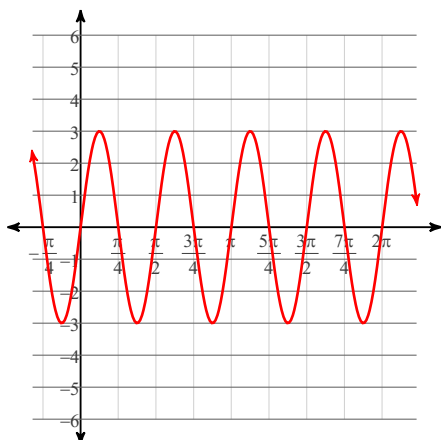
7) $y = \cos \frac{\theta}{2}$



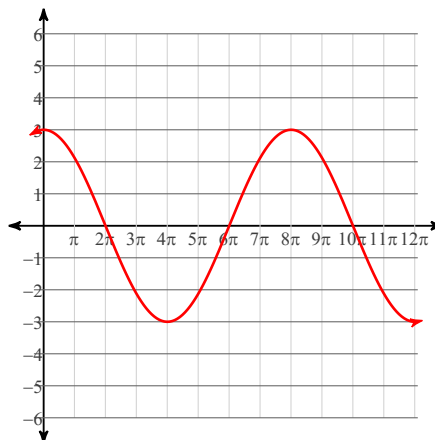
8) $y = \frac{1}{2} \cdot \cos \frac{\theta}{4}$



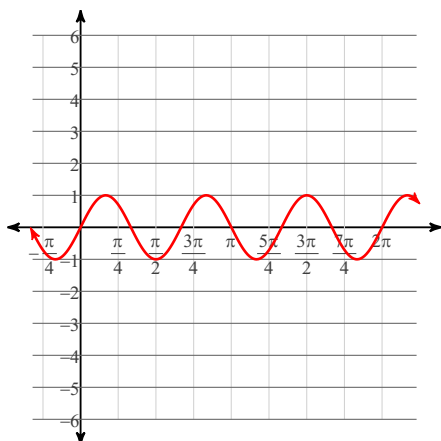
9) $y = 3\sin 4\theta$



10) $y = 3\cos \frac{\theta}{4}$



11) $y = \sin 3\theta$



12) $y = 3\cos 2\theta$

