Trigonometric and Polar Functions

AP Precalculus · Vocabulary in context

Word	Example
periodic /ˌpɪərɪˈɒdɪk/	A **periodic** event happens regularly, like seasons.
period /ˈpɪərɪəd/	The **period** of the wave is 0.02 s. 0.02 s
cycle /ˈsaɪkl/	One **cycle** of a sine wave takes 2π. 2π
standard position /ˈstændəd pəˈzɪʃn/	An angle in **standard position** starts on the positive x-axis. x
radian /ˈreɪdɪən/	One full turn is an angle of 2π **radians**. 2π
equilateral triangle /ˌiːkwɪˈlætərəl ˈtraɪæŋgl/	An **equilateral triangle** has three equal sides.
quadrant /ˈkwɒdrənt/	An angle of 200° lies in the third **quadrant**, where sine and cosine are both negative. 200°
reference angle /ˈrefrəns ˈæŋgl/	Find the **reference angle** before choosing the sign of sine.
unit circle /ˈjuːnɪt ˈsɜːkl/	A **unit circle** has a radius of one.
oscillate /ˈɒsɪleɪt/	A spring makes a mass **oscillate** up and down.
odd function /ɒd ˈfʌŋkʃən/	x^3 is an **odd function**: $f(-x) = -f(x)$. x^3 $f(-x) = -f(x)$
even function /ˈiːvən ˈfʌŋkʃən/	x^2 is an **even function**: $f(-x) = f(x)$. x^2 $f(-x) = f(x)$
sinusoidal function /ˌsaɪnəˈsɔɪdl ˈfʌŋkʃn/	$y = \sin x$ is a **sinusoidal function**. $y = \sin x$

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frequency /ˈfriːkwənsi/	A **frequency** of 50 Hz means 50 waves every second. 50 Hz 50
Amplitude /ˈæmplɪtjuːd/	The **amplitude** of $y = 3 \sin x$ is 3. $y = 3 \sin x$ 3
Midline /ˈmɪdlaɪn/	The **midline** of $y = \sin x + 2$ is $y = 2$. $y = \sin x + 2$ $y = 2$
phase shift /feɪz ʃɪft/	A **phase shift** moves the graph left or right.
inverse trigonometric functions /ɪnˈvɜːs ˌtrɪgənəʊˈmetrɪk ˈfʌŋkʃnz/	arcsin and arccos are **inverse trigonometric functions**. arcsin arccos
arcsine /ˈɑːksaɪn/	The **arcsine** of 1 is $\pi/2$. 1 $\pi/2$
reciprocals /rɪˈsɪprəklz/	2 and ½ are **reciprocals**. 2 ½
Pythagorean identity /paɪθəgɔːrɪən aɪˈdentɪti/	The **Pythagorean identity** is $\sin^2\theta + \cos^2\theta = 1$. $\sin^2\theta + \cos^2\theta = 1$
sum identities /sʌm aɪˈdentɪtiz/	The **sum identities** give $\sin(A + B)$ from sin A, cos A, sin B and cos B. sin A、cos A、sin B cos B $\sin(A + B)$。
double-angle /ˈdʌbl ˈæŋgl/	The **double-angle** formula is $\sin 2\theta = 2 \sin\theta \cos\theta$. $\sin 2\theta = 2 \sin\theta \cos\theta$
Polar coordinates /ˈpəʊlə kəʊˈɔːdɪnəts/	**Polar coordinates** give a distance and an angle.
complex number /ˈkɒmpleks ˈnʌmbə/	The **complex number** $4 + 3j$ has a real part of 4. $4 + 3j$ 4