Algebra 2   Work on these after Unit Circle Quiz

1. Find a positive and a negative coterminal angle.   2. Convert to radians.
Give answer in radians, in terms of π, in reduced form.   Give answer in terms of π, in reduced form.

$\theta = -\dfrac{34\pi}{9}$ $\theta = 156°$

3. Find the exact value of each.   a) $\text{Sin}(-930°)$ b) $\text{Tan}\dfrac{35\pi}{6}$
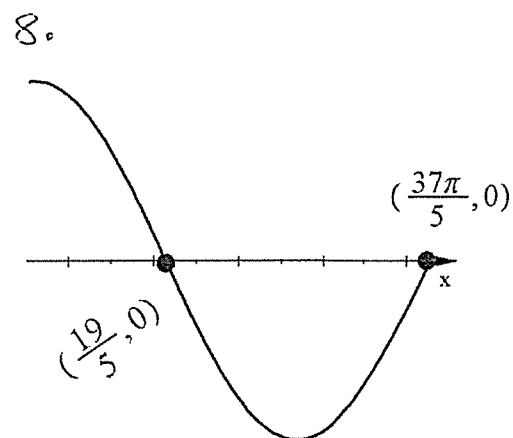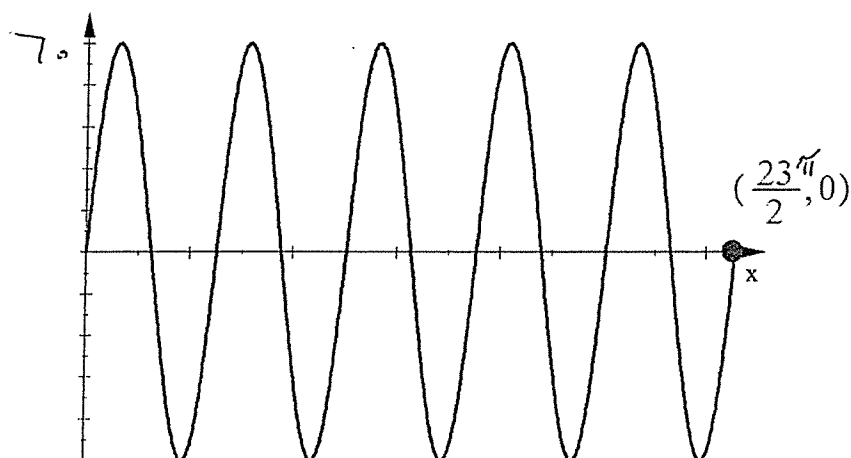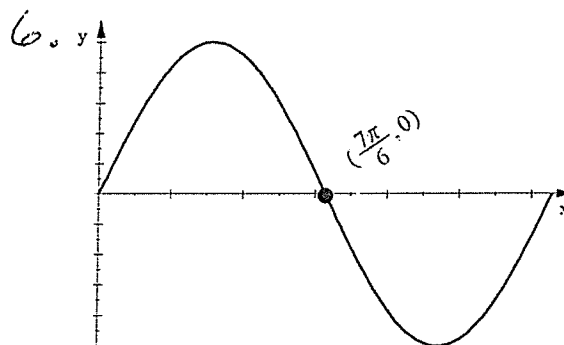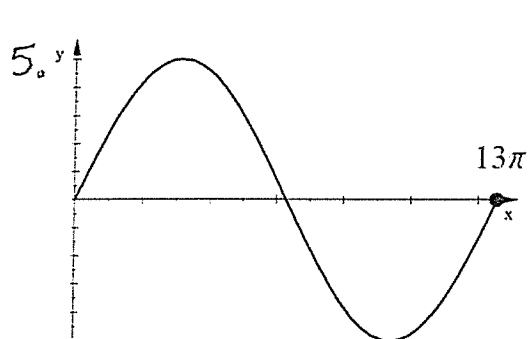
4. Find the Period of each Sine function.

a) $y = 4\text{Sin}6x$ b) $y = -11\text{Sin}\dfrac{x}{7}$

Find the period of each graph.

5.

13π

6.

$(\frac{7\pi}{6}, 0)$

7.

$(\frac{23\pi}{2}, 0)$

8.

$(\frac{37\pi}{5}, 0)$

$(\frac{19}{5}, 0)$

9.

$(\frac{15\pi}{29}, 8)$
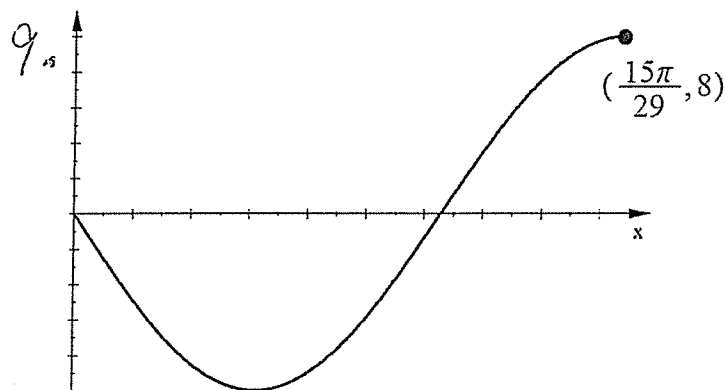
Algebra 2   Work on these after Unit Circle Quiz

ANSWERS

1. Find a positive and a negative coterminal angle.
Give answer in radians, in terms of π, in reduced form.

$\theta = -\dfrac{34\pi}{9}$ POS : $\dfrac{2\pi}{9}$

NEG : $-\dfrac{16\pi}{9}, -\dfrac{52\pi}{9}, \cdots$

2. Convert to radians.
Give answer in terms of π, in reduced form.

$\theta = 156° \cdot \dfrac{\pi}{180}$ $\boxed{\dfrac{13\pi}{15}}$

3. Find the exact value of each.   a) $\sin(-930°)$

$= \sin(150°) = \boxed{\dfrac{1}{2}}$

b) $\tan\dfrac{35\pi}{6}$

$= \tan\dfrac{11\pi}{6} = \dfrac{-\frac{1}{2}}{\frac{\sqrt{3}}{2}} = \boxed{-\dfrac{\sqrt{3}}{3}}$

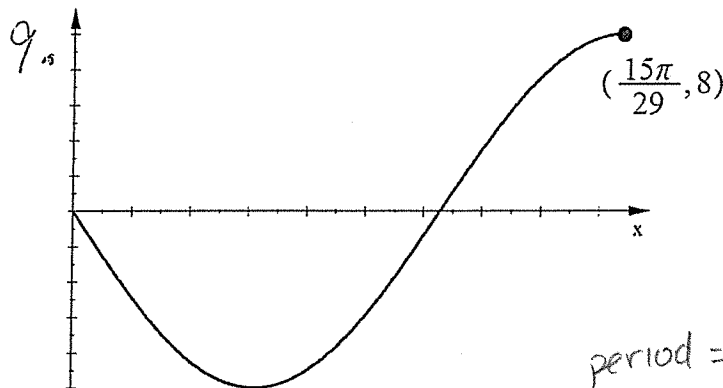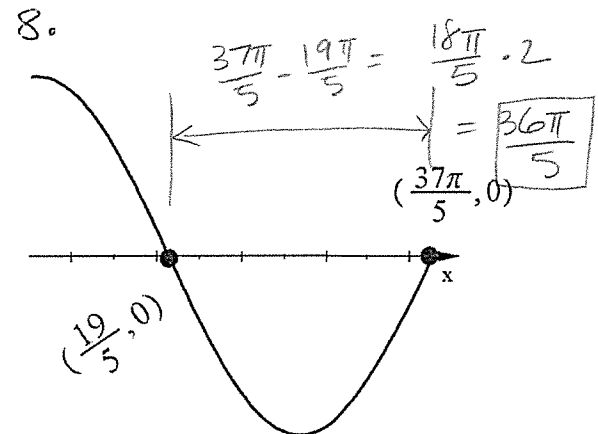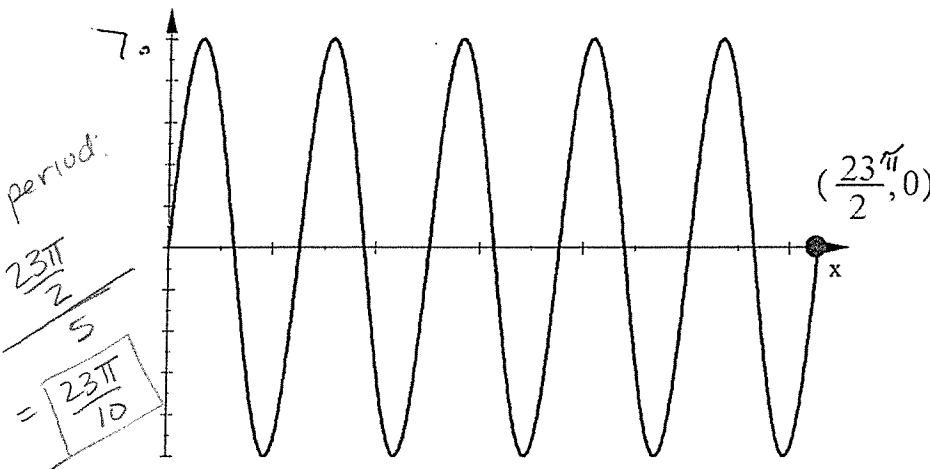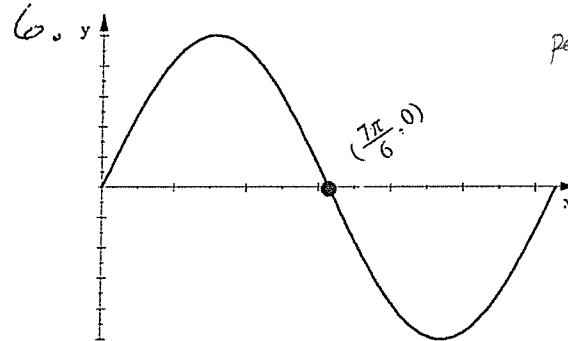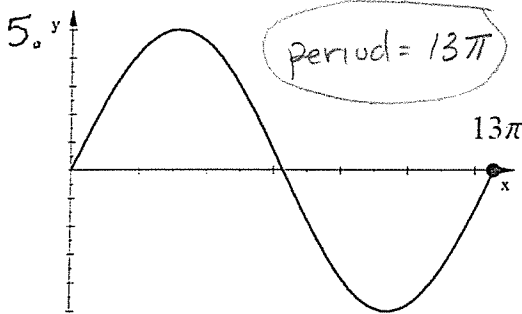4. Find the Period of each Sine function.

a) $y = 4\sin 6x$ period $= \dfrac{2\pi}{6} = \boxed{\dfrac{\pi}{3}}$

b) $y = -11\sin\dfrac{x}{7}$ period $= \dfrac{2\pi}{\frac{1}{7}} = \boxed{14\pi}$

Find the period of each graph.

5.

period $= 13\pi$ 13π

6.

period $= \dfrac{7\pi}{6} \cdot 2 = \boxed{\dfrac{7\pi}{3}}$ $\left(\dfrac{7\pi}{6}, 0\right)$

7.

period: $\dfrac{\frac{23\pi}{2}}{5} = \boxed{\dfrac{23\pi}{10}}$ $\left(\dfrac{23\pi}{2}, 0\right)$

8.

$\dfrac{37\pi}{5} - \dfrac{19\pi}{5} = \dfrac{18\pi}{5} \cdot 2 = \boxed{\dfrac{36\pi}{5}}$ $\left(\dfrac{37\pi}{5}, 0\right)$ $\left(\dfrac{19}{5}, 0\right)$

9.

$\left(\dfrac{15\pi}{29}, 8\right)$ ← 3/4 of a cycle

period $= \dfrac{\frac{15\pi}{29}}{\frac{3}{4}} = \dfrac{15\pi}{29} \cdot \dfrac{4}{3} = \boxed{\dfrac{60\pi}{87}}$

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