Algebra 2 - Mr. C. - All work on looseleaf. Name_____

Week 4 Practice (see Ch. 11-3 for Trig. Identities)

Date_____ Period____

Using degrees, find the amplitude and period of each function.

1) $y = 2\sin(2\theta + 210) - 4$

2) $y = -4 + \frac{1}{9} \cdot \sin(\theta + 120)$

3) $y = -2 + 4\cos\left(\frac{\theta}{7} - 120\right)$

4) $y = 10\sin\left(\frac{\theta}{3} - 135\right) - 1$

5) $y = 4\sin(6\theta + 120)$

6) $y = \cos\theta - 4$

7) $y = 3 + 8\sin\left(\frac{\theta}{2} + 30\right)$

8) $y = 4\sin(4\theta - 120) - 5$

9) $y = \frac{1}{5} \cdot \cos(5\theta + 120) + 4$

10) $y = -1 + \frac{1}{2} \cdot \cos\left(\frac{\theta}{2} + 45\right)$

11) $y = 6\cos(8\theta + 150) + 3$

12) $y = 10\sin(2\theta - 45) - 4$

Using radians, find the amplitude and period of each function.

13) $y = 5\cos\left(\frac{\theta}{3} + \frac{\pi}{3}\right) - 4$

14) $y = -5 + 10\cos\left(2\theta + \frac{\pi}{4}\right)$

15) $y = \frac{1}{8} \cdot \sin\left(\frac{\theta}{2} + \frac{5\pi}{6}\right) + 5$

16) $y = 7\sin\left(4\theta + \frac{5\pi}{6}\right) + 1$

17) $y = 2\sin\left(6\theta + \frac{3\pi}{4}\right) - 4$

18) $y = 6\cos\left(7\theta + \frac{\pi}{2}\right) - 5$

19) $y = \sin\left(\theta + \frac{\pi}{2}\right)$

20) $y = 2 + 8\cos\left(5\theta + \frac{5\pi}{3}\right)$

21) $y = 5\sin\left(\frac{\theta}{2} + \frac{7\pi}{6}\right) + 5$

22) $y = 2\sin\left(6\theta - \frac{\pi}{4}\right) - 1$

23) $y = 3\cos\left(2\theta + \frac{\pi}{3}\right) + 1$

24) $y = \frac{1}{5} \cdot \cos\left(\frac{\theta}{5} + \frac{\pi}{3}\right) + 1$

Answers to Week 4 Practice (see Ch. 11-3 for Trig. Identities) (ID: 1)

1) Amplitude: 2
Period: 180°

2) Amplitude: $\frac{1}{9}$
Period: 360°

3) Amplitude: 4
Period: 2520°

4) Amplitude: 10
Period: 1080°

5) Amplitude: 4
Period: 60°

6) Amplitude: 1
Period: 360°

7) Amplitude: 8
Period: 720°

8) Amplitude: 4
Period: 90°

9) Amplitude: $\frac{1}{5}$
Period: 72°

10) Amplitude: $\frac{1}{2}$
Period: 720°

11) Amplitude: 6
Period: 45°

12) Amplitude: 10
Period: 180°

13) Amplitude: 5
Period: 6π

14) Amplitude: 10
Period: π

15) Amplitude: $\frac{1}{8}$
Period: 4π

16) Amplitude: 7
Period: $\frac{\pi}{2}$

17) Amplitude: 2
Period: $\frac{\pi}{3}$

18) Amplitude: 6
Period: $\frac{2\pi}{7}$

19) Amplitude: 1
Period: 2π

20) Amplitude: 8
Period: $\frac{2\pi}{5}$

21) Amplitude: 5
Period: 4π

22) Amplitude: 2
Period: $\frac{\pi}{3}$

23) Amplitude: 3
Period: π

24) Amplitude: $\frac{1}{5}$
Period: 10π