

Graphing Sine and Cosine WS #1

Graph each function using radians.

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

2) $y = 2\cos 4\theta$

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

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

5) $y = 4\sin 2\theta$

6) $y = \cos 4\theta$

7) $y = 4\sin \theta$

8) $y = 2\sin 2\theta$

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

9) $y = \frac{1}{5} \cdot \sin \frac{\theta}{5}$

10) $y = 2\sin \frac{\theta}{8}$

11) $y = 7\sin 5\theta$

12) $y = 3\sin \frac{\theta}{2}$

13) $y = \frac{1}{8} \cdot \sin \frac{\theta}{5}$

14) $y = \frac{1}{7} \cdot \sin 5\theta$

15) $y = 10\cos 6\theta$

16) $y = 8\cos \theta$

17) $y = 7\sin 3\theta$

18) $y = \frac{1}{5} \cdot \cos 2\theta$

19) $y = 7\sin 4\theta$

20) $y = 8\cos 4\theta$

21) $y = 7\cos \frac{\theta}{3}$

22) $y = 3\cos \frac{\theta}{5}$

Find the common ratio, the term named in the problem, and the explicit formula.

23) 1, 3, 9, 27, ...

Find a_{12}

24) 1, 4, 16, 64, ...

Find a_{10}

25) -4, -12, -36, -108, ...

Find a_9

26) -4, 12, -36, 108, ...

Find a_{11} **Evaluate each geometric series described.**

27) $2 + 12 + 72 + 432\dots, n = 6$

28) $-3 - 12 - 48 - 192\dots, n = 7$

29) $4 + 8 + 16 + 32\dots, n = 8$

30) $-3 + 6 - 12 + 24\dots, n = 9$

Evaluate each arithmetic series described.

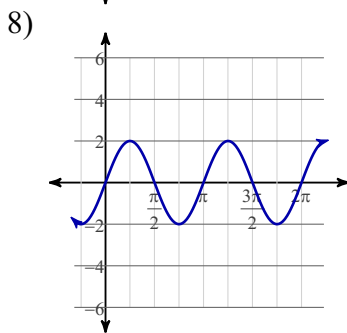
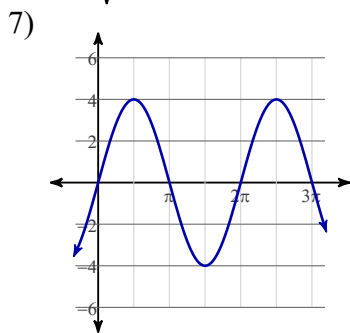
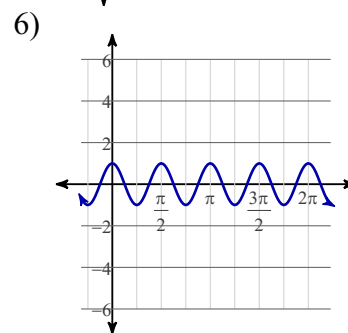
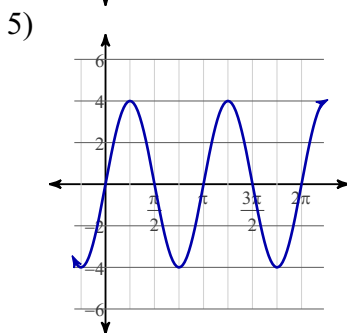
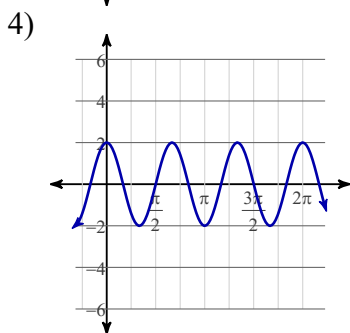
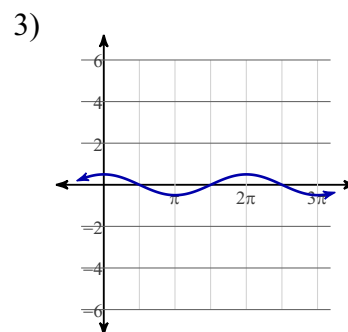
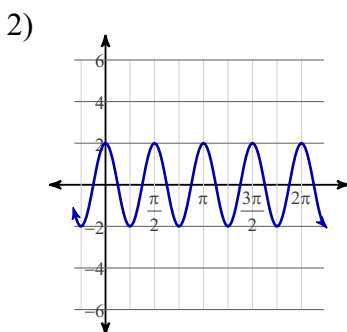
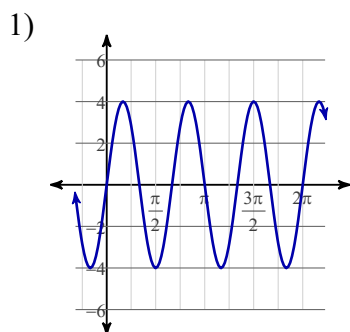
31) $15 + 17 + 19 + 21\dots, n = 12$

32) $12 + 18 + 24 + 30\dots, n = 19$

33) $(-3) + 4 + 11 + 18\dots, n = 12$

34) $33 + 39 + 45 + 51\dots, n = 12$

Answers to Graphing Sine and Cosine WS #1



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

10) Amplitude: 2
Period: 16π

11) Amplitude: 7
Period: $\frac{2\pi}{5}$

12) Amplitude: 3
Period: 4π

13) Amplitude: $\frac{1}{8}$
Period: 10π

14) Amplitude: $\frac{1}{7}$
Period: $\frac{2\pi}{5}$

15) Amplitude: 10
Period: $\frac{\pi}{3}$

16) Amplitude: 8
Period: 2π

17) Amplitude: 7
Period: $\frac{2\pi}{3}$

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

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

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

21) Amplitude: 7
Period: 6π

22) Amplitude: 3
Period: 10π

23) Common Ratio: $r = 3$
 $a_{12} = 177147$
Explicit: $a_n = 3^{n-1}$

24) Common Ratio: $r = 4$
 $a_{10} = 262144$
Explicit: $a_n = 4^{n-1}$

25) Common Ratio: $r = 3$
 $a_9 = -26244$
Explicit: $a_n = -4 \cdot 3^{n-1}$

26) Common Ratio: $r = -3$
 $a_{11} = -236196$
Explicit: $a_n = -4 \cdot (-3)^{n-1}$

27) 18662

28) -16383

29) 1020

30) -513

31) 312

32) 1254

33) 426

34) 792