

HW 4.3.4: Graphing transformations of $y = \sin x$ and $y = \cos x$

Graph two cycles for each of the functions without a calculator. Identify the period and label at least one relative maximum and minimum. (Radian graph paper may be useful.)

$$1. y = -1 + 3\sin\left(x - \frac{\pi}{4}\right)$$

$$2. y = -4\cos\left(x + \frac{\pi}{4}\right)$$

$$3. y = 1 - 3\sin\left(\frac{2}{3}x\right)$$

$$4. y = -1 + 3\cos\left(\frac{3}{2}x\right)$$

$$5. y = 3\cos\left(x + \frac{5\pi}{6}\right)$$

$$6. y = 4\cos\left(\frac{4}{3}x\right)$$

$$7. y = 1 + 3\sin\left(2\left(x + \frac{\pi}{2}\right)\right)$$

$$8. y = 1 - 3\cos\left(3\left(x - \frac{\pi}{3}\right)\right)$$

$$9. y = 4\sin\left(\frac{2}{3}x + \frac{\pi}{9}\right)$$

$$10. y = -4\cos\left(\frac{4}{3}x - \frac{\pi}{3}\right)$$

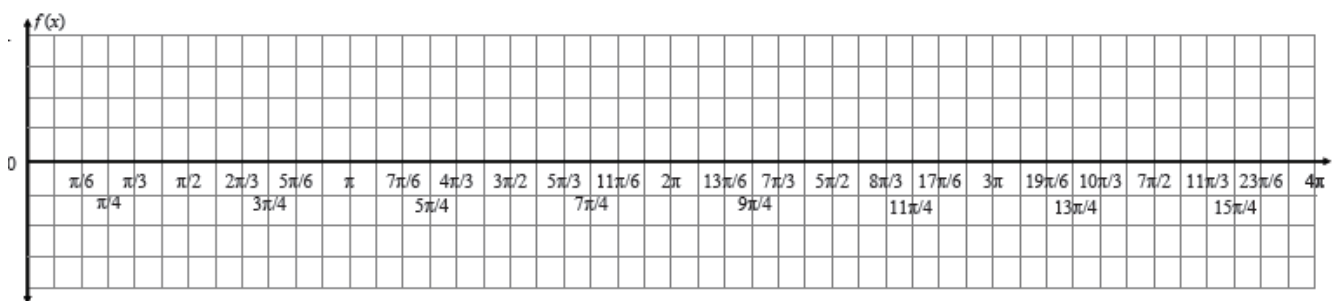
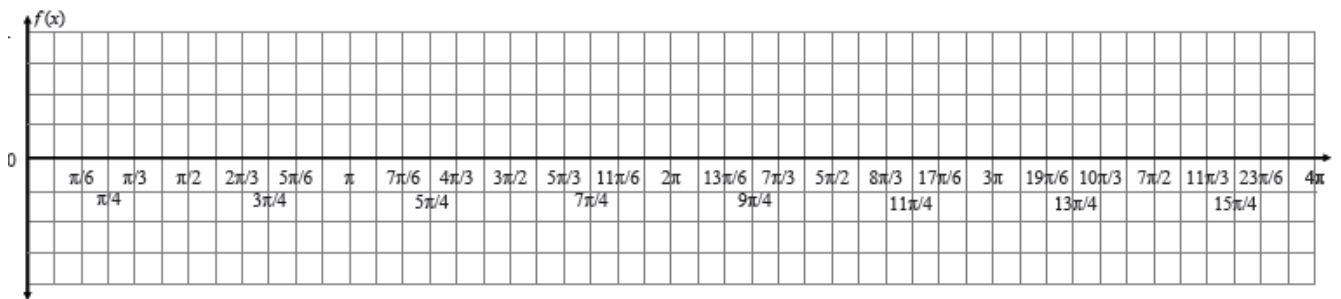
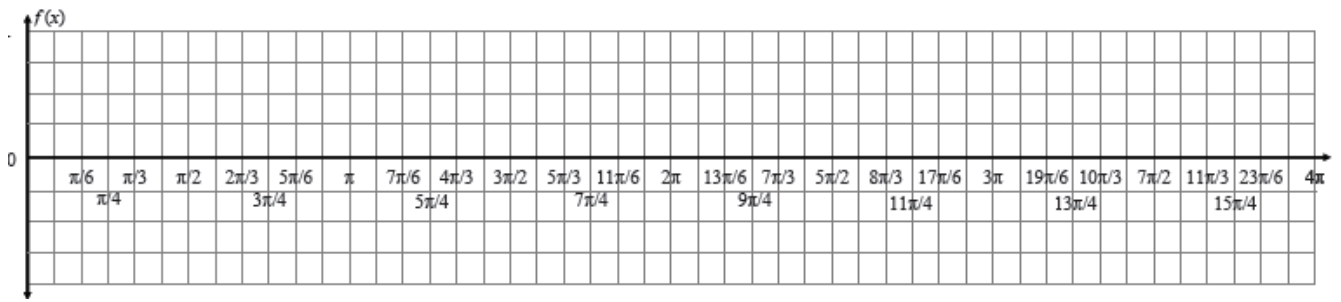
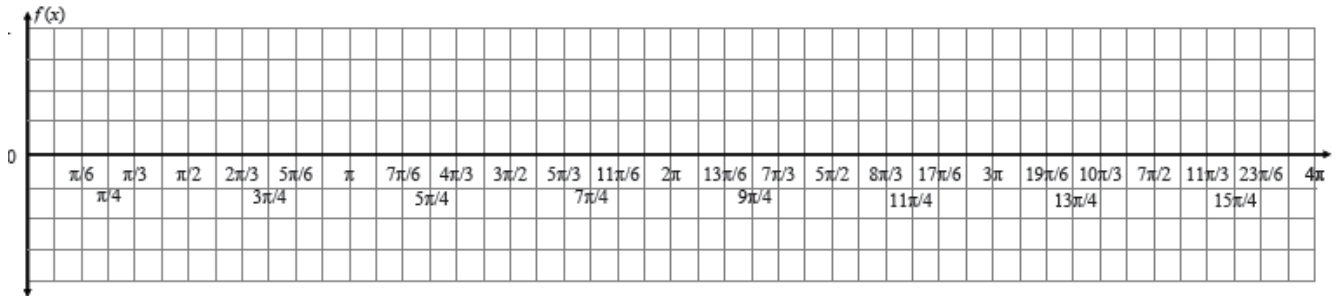
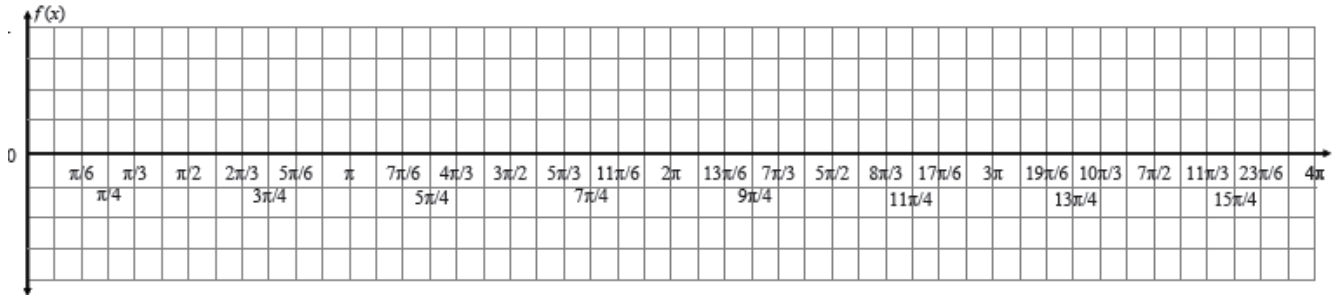
Graph two cycles for each of the functions without a calculator. Identify the period and at least one relative maximum and minimum. (Labeling the domain every quarter cycle may be useful.)

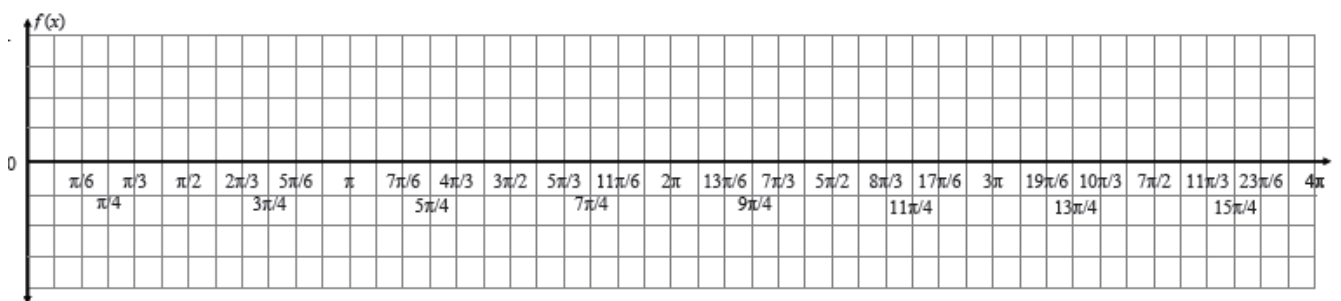
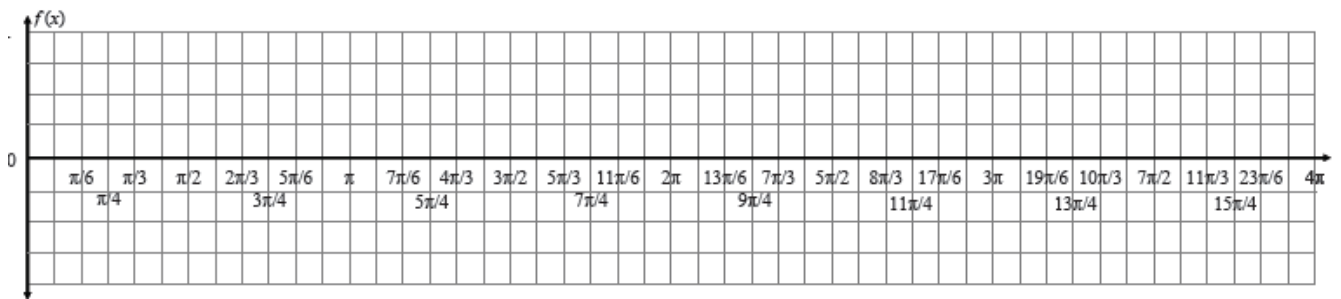
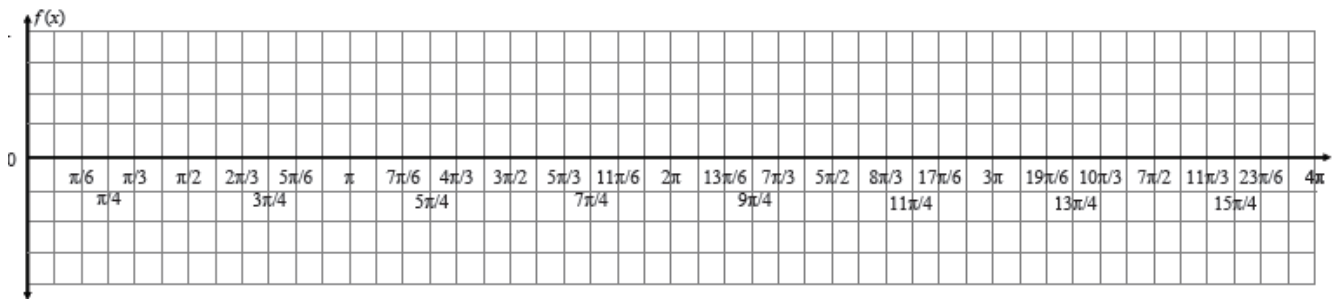
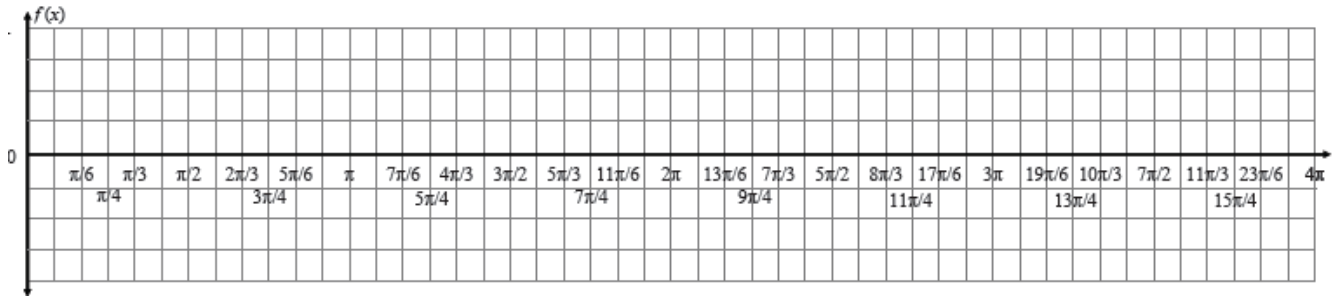
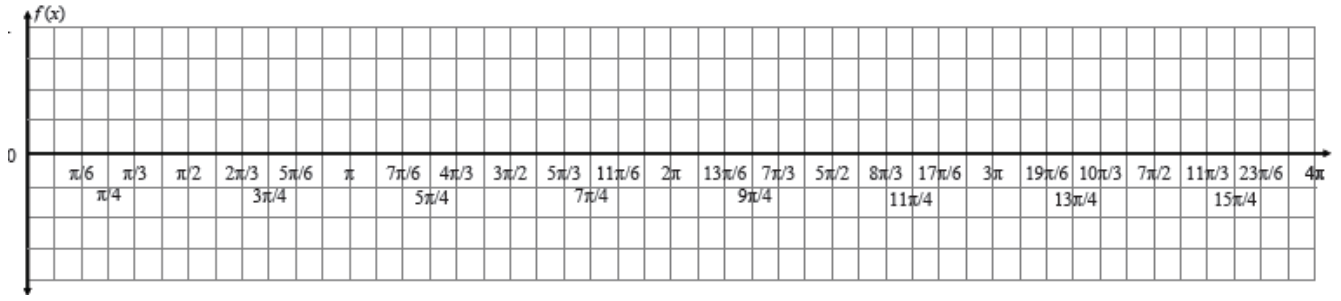
$$11.) y = -2 - 4\sin\left(\frac{\pi}{2}\left(x - \frac{1}{3}\right)\right)$$

$$12.) y = 10\cos\left(\frac{2\pi}{3}\left(x + \frac{1}{4}\right)\right)$$

$$13.) y = 4\sin\left(\frac{4\pi}{3}x\right)$$

$$14.) y = 8\cos\left(\frac{\pi}{4}x - \frac{\pi}{2}\right)$$





Selected Answers:

