

(C2-8.6a) Name:

Homework Questions 6 – Transformation of Trigonometric Graphs

1. State the amplitude of the following graphs, and hence give the coordinates of the first maximum and minimum point to occur after (0,0)

a) $y = 4 \cos x$

Amplitude 4	Min (180, -4)
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b) $y = 3 \sin x$

Amplitude 3	Max (90, 3)
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c) $y = \frac{1}{2} \sin 2x$

Amplitude 0.5	Max (90, 0.5)
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d) $y = -\cos x$

Amplitude 1	Max (180, 1)
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e) $y = \frac{1}{2} \sin 3x$

Amplitude 0.5	Min (30, 0.5)
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2. State the period of the following graphs

a) $y = \cos x$

360°

b) $y = 3 \sin 2x$

180°

c) $y = \cos \frac{x}{2}$

720°

d) $y = \sin 3x$

120°

e) $y = \cos \frac{x}{4}$

1140°

3. Describe the transformation that has taken place in each of the following

a) $y = \cos 2x$

stretched horizontally by x coordinate divide by 2
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b) $y = \sin \left(x - \frac{\pi}{3} \right)$

moved right, x coordinate add $\frac{\pi}{3}$

c) $y = 2 \cos x$

stretched vertically by 2, multiply y coordinate by 2

d) $y = \sin x + 2$

moved up, y coordinate add 2

e) $y = -\tan x$

reflection in x – axis, change sign of y coordinate

f) $y = \sin(-x)$

reflection in y axis, change sign of x coordinate

4. State the asymptotes of the graph $y = \tan(\theta - \pi)$ for $-\pi \leq \theta \leq \pi$

$-\frac{3\pi}{2}, -\frac{\pi}{2}, \frac{\pi}{2}, \frac{3\pi}{2}$
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