

Name Key

Date _____

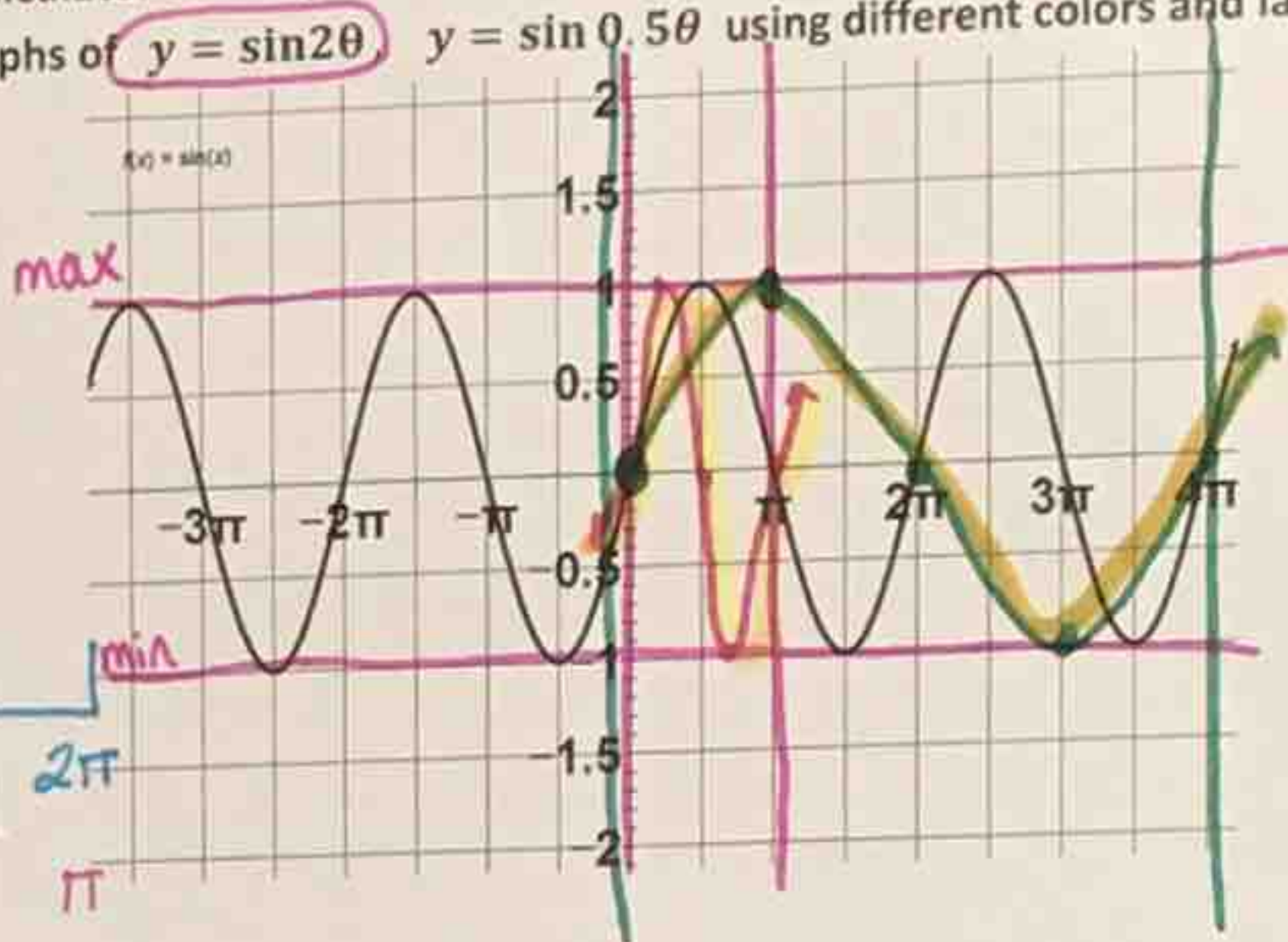
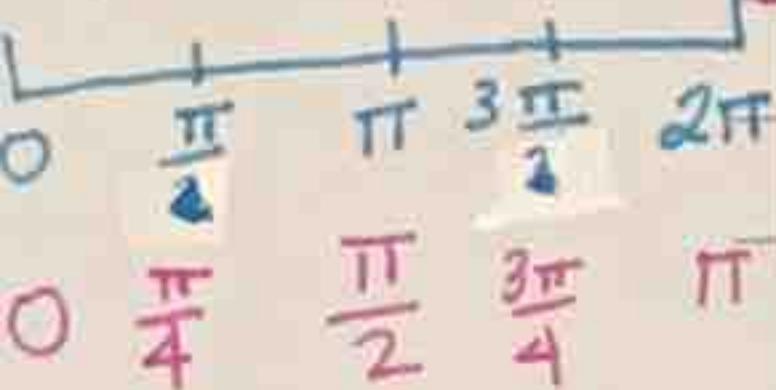
Supp Alg 14.2 Period, Amplitudes

Use a graphing calculator to complete the following.

1. Sketch the graphs of $y = \sin 2\theta$ and $y = \sin 0.5\theta$ using different colors and label the graph with the equation.

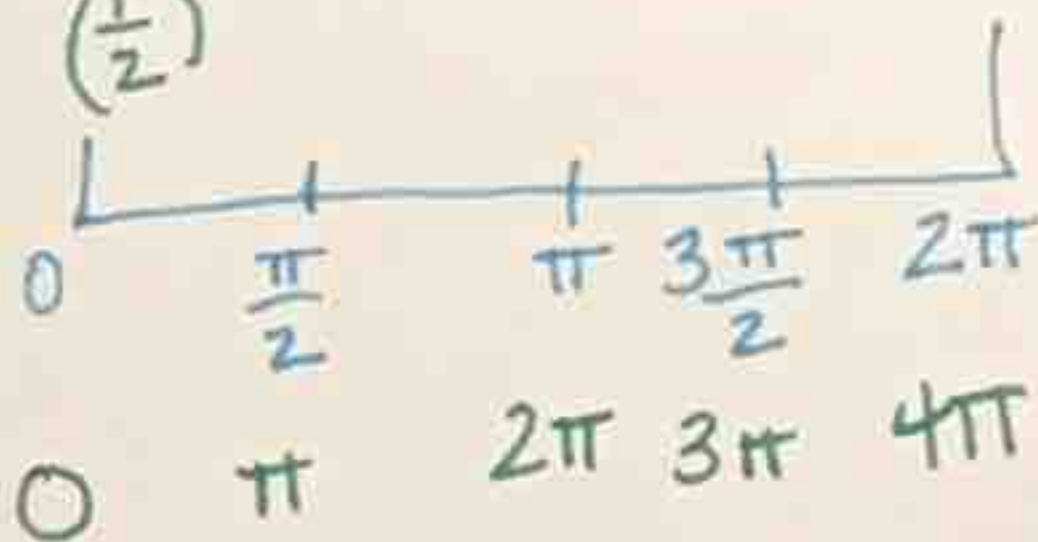
$\sin B\theta$
Parent $\div B$
= New period

$\frac{2\pi}{2} = \pi$



$\sin \frac{1}{2}\theta$

$\frac{2\pi}{(\frac{1}{2})} = 4\pi$ New period!

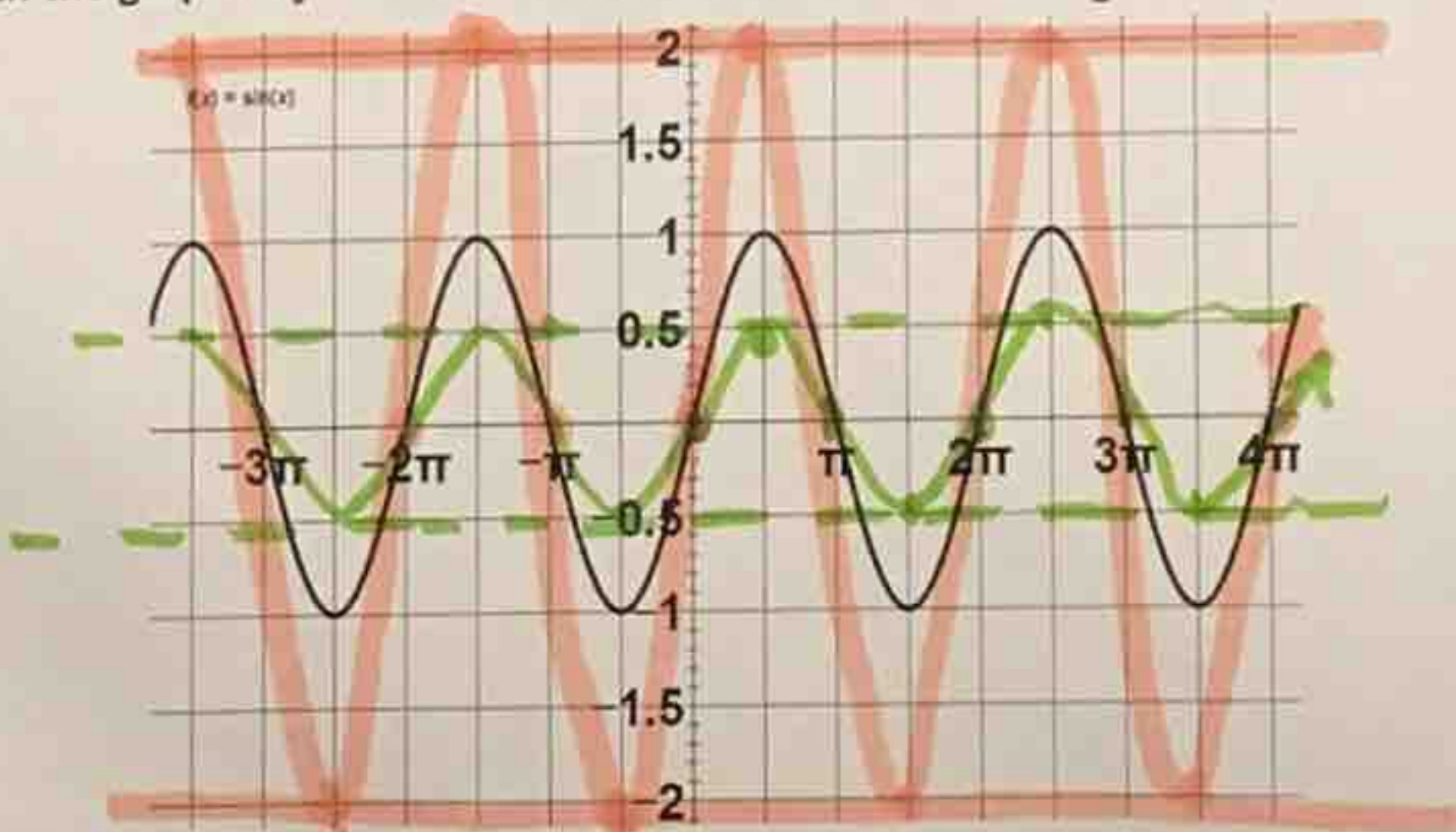


b). Describe the transformations that occurred.

$\sin 2\theta$
tight

$\sin \frac{1}{2}\theta$
extended

2. a). Sketch the graph of $y = 2\sin \theta$ using a different color. $y = \frac{1}{2}\sin \theta$ using a different color.



b). Describe the transformation that occurred.

$y = 2\sin \theta$
tall
Amp = 2

$y = \frac{1}{2}\sin \theta$
short
Amp = $\frac{1}{2}$

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Amplitude and Period: Graphing Trig Functions

Find the amplitude and period of each function.

	Amplitude	Period	degrees		Amplitude	Period	
1. $y = \sin \theta$	<u>1</u>	<u>2π</u>	<u>360°</u>	6. $y = -\sin \frac{3\theta}{2}$	<u>1</u> Flip	<u>$\frac{4\pi}{3}$</u>	<u>240°</u>
2. $y = 2 \sin \theta$	<u>2</u>	<u>2π</u>	<u>360°</u>	7. $y = \frac{2}{3} \sin 4\theta$	<u>$\frac{2}{3}$</u>	<u>$\frac{\pi}{2}$</u>	<u>90°</u>
3. $y = \frac{1}{2} \cos \theta$	<u>$\frac{1}{2}$</u>	<u>2π</u>	<u>360°</u>	8. $y = 3 \sin \frac{2\theta}{3}$	<u>3</u>	<u>3π</u>	<u>540°</u>
4. $y = \sin 5\theta$	<u>1</u>	<u>$\frac{2\pi}{5}$</u>	<u>72°</u>	9. $y = -2 \cos \frac{\theta}{4}$	<u>2</u> Flip	<u>8π</u>	<u>1440°</u>
5. $y = -3 \cos \frac{\theta}{2}$	<u>3</u> (flip)	<u>π</u>	<u>180°</u>	10. $y = \frac{3}{4} \cos \frac{3\theta}{2}$	<u>$\frac{3}{4}$</u>	<u>$\frac{4\pi}{3}$</u>	<u>240°</u>

Find the period of each function by examining its graph.

