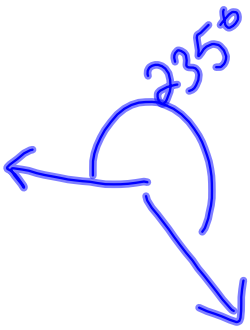
8.1 Worksheet

1. A
2. B
3. D
4. A
5. B
6. D
7. B
8. B



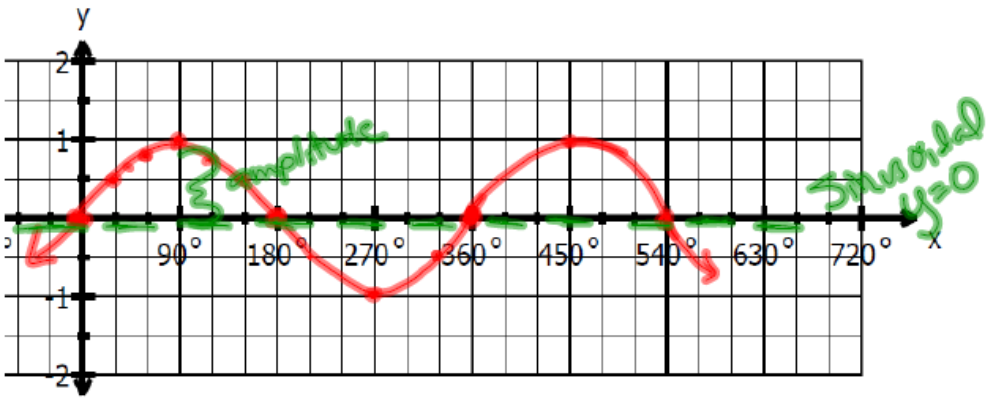
2. 75° or $\frac{\pi}{2} \Rightarrow \frac{180}{2} = 90°$

↑ greater

Section 8.2
The Sine Curve

$y = \sin\theta$

θ	$0°$	$30°$	$45°$	$60°$	$90°$	$120°$
y	0	$\frac{1}{2}$	$.707$	$.866$	1	$.866$



* **Five Key Points**

θ	y
$0°$	0
$90°$	1
$180°$	0
$270°$	-1
$360°$	0

Period: when the graph repeats

For $y = \sin\theta$, period $= 360°$

Sinusoidal Axis (midline)

→ splits the graph in half, horizontal line: $y = 0$

Amplitude

→ the distance from the midline

→ $y=\sin\theta$, amplitude $= 1$

Domain: $\{x \mid x \in R\}$

Range: $\{y \mid -1 \leq y \leq 1, y \in R\}$

Maximum: highest point

$y=\sin\theta \Rightarrow 1$

Minimum: lowest

$y=\sin\theta \Rightarrow -1$

X-intercepts:

$0^\circ, 180^\circ, 360^\circ, \ldots$

Y-intercept

0°

$$y = \sin\theta$$

$$y = \sin 0^\circ$$
$$= 0$$

$$y = \sin 30^\circ$$
$$= 0.5$$