Solutions

Each answer shows the steps, then the **result**.

2.1

- $|a|$

2.2

- period $= \dfrac{2\pi}{2} = \pi$

2.3

- $y = 3$

2.4

- **odd**: $\sin(-x) = -\sin x$
- its graph has rotational symmetry about the origin

3.1 B

- $|a|$.

3.2 B

- $\dfrac{2\pi}{b}$.

3.3

(a)

- 3

(b)

- π

(c)

- $y = 1$

3.4

(a)

- amplitude $= \dfrac{11 - (-3)}{2} = \mathbf{7}$

(b)

- midline $y = \dfrac{11 + (-3)}{2}$, so $\boldsymbol{y = 4}$

3.5

- concave down on $\boldsymbol{0 < x < \pi}$
- point of inflection at $\boldsymbol{x = \pi}$, where the graph changes from concave down to concave up

3.6 A

- $\cos(-x) = \cos x$: the graph is symmetric in the y-axis