

### Unit 5.4 Handout

State the amplitude, period, phase shift and vertical shift for each function, then graph each function:

$$1. \quad y = 3 \sin(10x - 30) - 2$$

$$2. \quad y = -2 \cos(-45x - 180) + 1$$

$$3. \quad y = \frac{3}{2} \cos\left(\frac{1}{2}x + 90\right) + 2$$

$$4. \quad y = -4 \sin\left(\frac{3}{2}x + 60\right)$$

