

13.7 Write equations for Sine and Cosine Graphs - D1

①

$a=1$ $b=1$ $k=0$

$\sin h=0$ $\cos h=\pi/2$

$y=\sin x$ $y=\cos(x-\pi/2)$

②

$a=1$ $b=1$ $k=1$

$\sin h=0$ $\cos h=\pi/2$

$y=\sin x+1$ $y=\cos(x-\pi/2)+1$

③

$a=1$ $b=1$ $k=-2$

$\sin h=0$ $\cos h=\pi/2$

$y=\sin x-2$ $y=\cos(x-\pi/2)-2$

④

Graph is reflected

$a=1$ $b=1$ $k=0$

$\sin h=\pi/4$ $\cos h=3\pi/4$

$y=-\sin(x-\pi/4)$ $y=-\cos(x-3\pi/4)$

⑤

$a=2$ $b=1$ $k=1$

$\sin h=0$ $\cos h=\pi/2$

$y=2\sin x+1$ $y=2\cos(x-\pi/2)+1$

⑥

Graph reflected

$a=-2$ $b=1$ $k=1$

$\sin h=0$ $\cos h=\pi/2$

$y=-2\sin x-1$ $y=-2\cos(x-\pi/2)-1$

⑦

$a=+3$ $b=1$ $k=-3$

$\sin h=2\pi/3$

$y=3\sin(x-2\pi/3)-3$

cosine is reflected
moved $\frac{1}{2} \cdot \pi/3 = \pi/6 = h$

$y=-3\cos(x-\pi/6)-3$

⑧

$a=2$ $b=1$ $k=2$

$\sin h=\pi/3$ $\cos h=2\frac{1}{2}$ block each block $\pi/3$ $h=5\pi/6$

$y=2\sin(x-\pi/3)+2$

$y=2\cos(x-5\pi/6)+2$