***Transformations of Trig Functions – Homework***

1. Determine the period and the amplitude of each function.

a)  b)  c) 

d)  e)  f) 

2. For each function, state all transformations from the appropriate base function.

a)  b) 

c)  d) 

3. For each of the following trig functions,

(*i*) state the period, amplitude, phase shift and vertical shift

(*ii*) graph one complete cycle of the function

a)  b)  c) 

d)  e) 

4. Write two equations for each of the following graphs, one using the sine function, and one using the cosine function.

a) b)

**Answers:**

1. a) period = 180°; amplitude = 1 b) period = 360°; amplitude = 2

c) period = 72°; amplitude = 3 d) period = 60°; amplitude = 

e) period = 1080°; amplitude = 6 f) period = 1440°; amplitude = 

2. a) vertical stretch of 3, horizontal stretch of 4, phase shift right 30°, vertical shift up 2

b) vertical comp. of 3, horizontal comp. of 2, phase shift left 15°, vertical shift down 1

c) vertical comp. of , reflection in x-axis, horizontal comp. of 3, phase shift left 60°, vertical shift down 2

d) vertical stretch of 5, horizontal stretch of 2, phase shift right 90°, vertical shift up 3

4. a) ;  b) ; 