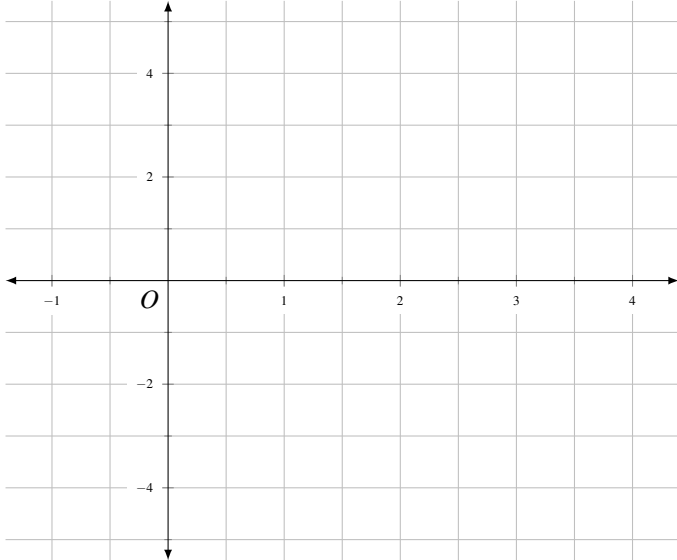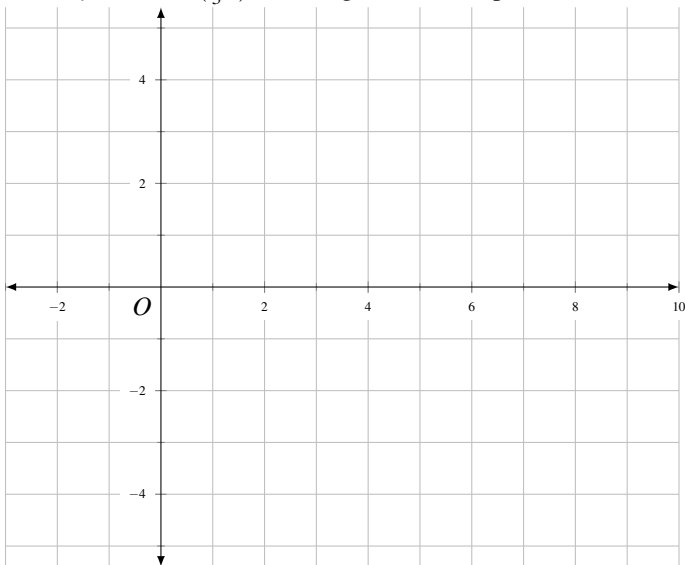**Name:** _____

Quiz 14

This quiz is graded out of 20 marks. No books, watches, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. *(4 marks)* Find the amplitude and period and sketch one period of $y = 5\sin(2x)$ including the x-intercepts and extremum points.

Question 2. *(4 marks)* Find the amplitude and period and sketch one period of $y = -2\cos(\frac{\pi}{3}x)$ including the x-intercepts and extremum points.

Question 3. *(3 marks)* Verify the following identity:
$\cos x \tan x \csc x = 1$

Question 4. *(3 marks)* Verify the following identity:
$\sin^2 x(1 + \cot^2 x) + \cos^2 x(1 + \tan^2 x) = 2$

Question 5. *(6 marks)* Solve for x, giving exact solutions where possible, $0 \le x < 2\pi$: $\sin x - \sqrt{2}\sin^2 x = 0$