Exercise 1 Calc. : ✗

Consider the functions $f(x) = x^2 - 8x + 15$ and $g(x) = (x-4)\cdot(x+4)$.	
1. **Find** the equation of the axis of symmetry for the function f.	3 marks
2. **Solve** the following equation showing all stages of your working: $f(x) = 0$.	3 marks
3. **Determine** if the function g intersects with the x-axis. If yes, **find** the points of intersection.	3 marks
4. **Solve** the following equation showing all stages of your working: $f(x) = g(x)$.	3 marks

Exercise 2 Calc. : ✗

Solve the following equation: $\log_2(x) + \log_2(4) = 6$.	5 marks

Exercise 3 Calc. : ✗

Solve the equation: $\cos\left(x + \frac{\pi}{4}\right) = \frac{-1}{2}$, for the interval $x \in [0; 2\pi)$.	4 marks

Exercise 4 Calc. : ✗

12 out of 28 students on a course are boys. 1/3 of the boys run a YouTube channel. 50% of all students are neither male nor YouTubers.	
1. **Set up** a fully completed four-field table for the situation described above.	4 marks
2. A pupil is selected at random. Given that the pupil runs a YouTube channel, **calculate** the probability that this student is a girl.	2 marks