

Exercise 1

Calc. : ✖

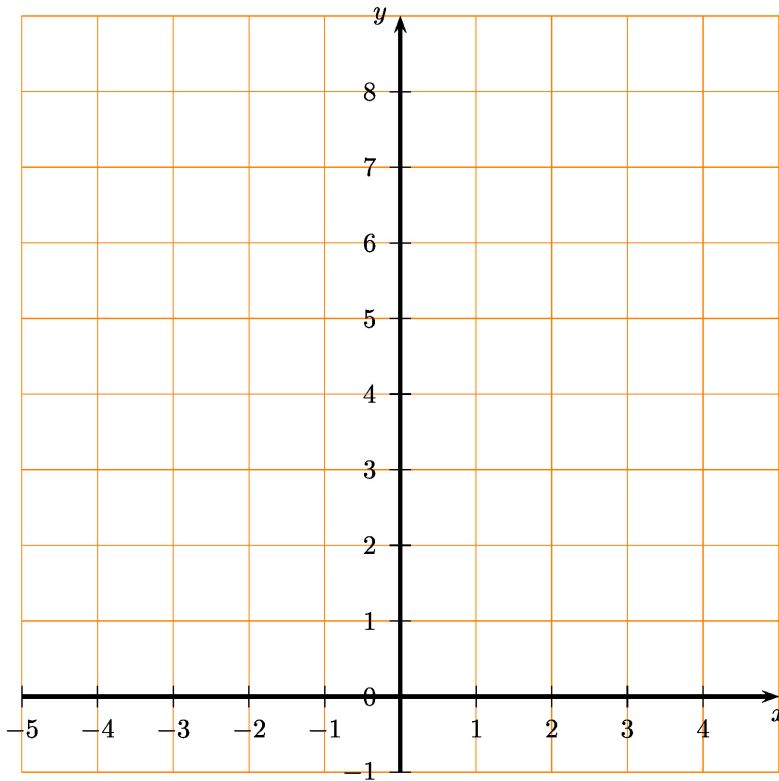
Let f be the function defined by $f(x) = 2^x$ 1. **Complete** the table of values below:

2 marks

x	-3	-2	-1	0	1	2	3
$f(x)$							

2. **Sketch** a graph of the function f below:

2 marks

3. **Discuss** if the function f is representing exponential growth or decay. **Justify**.

1 mark

Exercise 2

Calc. : ✗

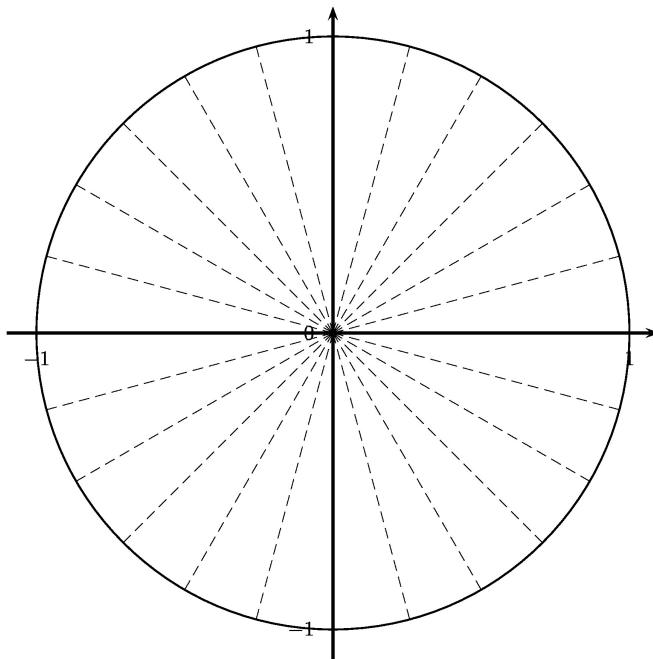
1. **Match** each angle in degrees (from a to e) to the corresponding angle in radians (from i to v):

2.5 marks

- | | | | | |
|---------------------|----------------------|-----------------------|----------------------|---------------------|
| a) 90° | b) 30° | c) 300° | d) 270° | e) 135° |
| i) $\frac{5}{3}\pi$ | ii) $\frac{1}{2}\pi$ | iii) $\frac{3}{4}\pi$ | iv) $\frac{1}{6}\pi$ | v) $\frac{3}{2}\pi$ |

2. **Place** these five angles on the Unit Circle below.

2.5 marks



Exercise 3

Calc. : ✗

We have put together the December B tests in mathematics, for S5 pupils of EEB1. Among those tests, we look at the grades of 6 students. Their 6 grades were as follows:

5, 5, 6, 6, 6, 8

1. **Calculate** the mean of these 6 grades. 1 mark
2. **Check** that the standard deviation of these 6 grades is 1. 2 marks
3. In another group of students, the mean is the same but the standard deviation is higher. **Interpret** this difference in terms of results of the two groups of students. 1 mark
4. **Give** an example of a series of 6 grades with the same mean, but with a higher standard deviation. 1 mark

Exercise 4

Calc. : ✗

1. Associate each function (from f to h) to the graph (from i to iii):

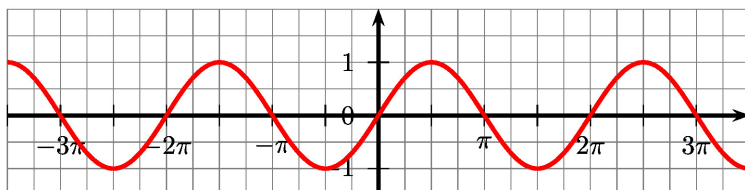
3 marks

$f(x) = \sin(x)$

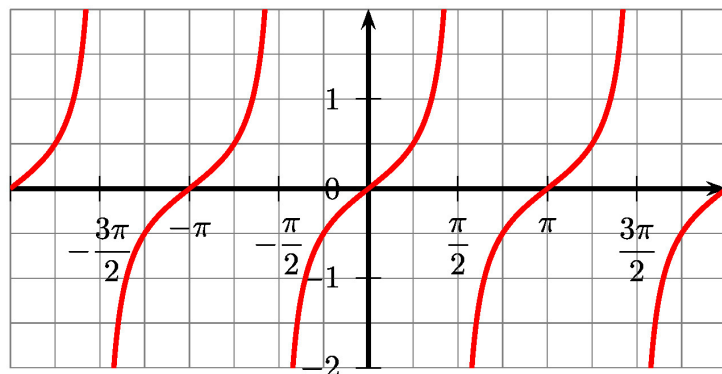
$g(x) = \cos(x)$

$h(x) = \tan(x)$

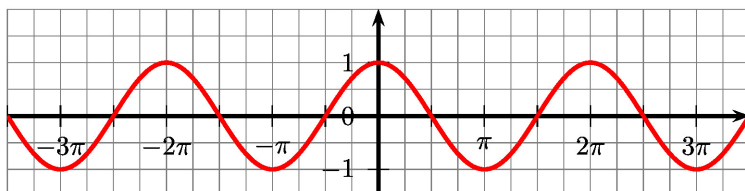
i)



ii)



iii)



2. Give the period of the functions i) and ii).

2 marks