



# Ross High School: Mathematics Department

## Higher Mathematics: Homework 1

1. (a) Find the equation of the straight line through the points  $A(-1, 5)$  and  $B(3, 1)$ . (2)
- (b) Find the size of the angle which  $AB$  makes with the positive direction of the  $x$ -axis. (2)
2. Prove that the points  $R(-2, 12)$ ,  $S(1, -3)$  and  $T(5, -23)$  are collinear. (3)
3. Find the midpoint of  $(4, 1)$  and  $(-6, 7)$ . (2)
4. Write down the exact value of
  - a.  $\sin 60$
  - b.  $\cos 135$(2)
5. Express the following in radians
  - a.  $10$
  - b.  $200$
  - c.  $345$(3)