

The complex number  $3 - i$  is denoted by  $u$ .

- (a) Show, on an Argand diagram with origin  $O$ , the points  $A$ ,  $B$  and  $C$  representing the complex numbers  $u$ ,  $u^*$  and  $u^* - u$  respectively.

State the type of quadrilateral formed by the points  $O, A, B$  and  $C$ .

[3]

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- (b)** Express  $\frac{u^*}{u}$  in the form  $x + iy$ , where  $x$  and  $y$  are real.

[3]

[illegible]

[illegible]