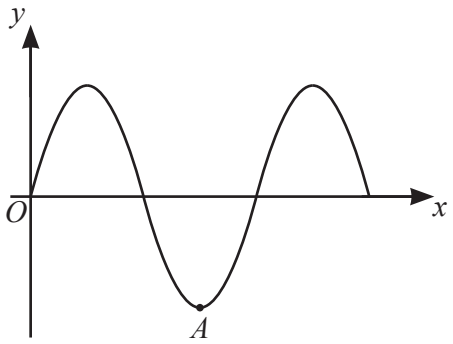
2



The diagram shows part of the curve with equation $y = k \sin \frac{1}{2}x$, where k is a positive constant and x is measured in radians. The curve has a minimum point A.

(a) State the coordinates of A. [1]

.....

.....

.....

.....

.....

(b) A sequence of transformations is applied to the curve in the following order.

Translation of 2 units in the negative y-direction

Reflection in the x-axis

Find the equation of the new curve and determine the coordinates of the point on the new curve corresponding to A. [3]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....