

1. A curve has equation

$$y = 2x^3 - 2x^2 - 2x + 8.$$

(a) Find  $\frac{dy}{dx}$ .

**(2)**

(b) Hence find the range of values of  $x$  for which  $y$  is increasing.  
Write your answer in set notation.

**(4)**

**(Total for Question 1 is 6 marks)**