Edexcel AS Mathematics Graphs and transformations

Section 1: Sketching graphs of functions

Exercise level 1

Do not use a graphical calculator or graphing software for this exercise.

1. Sketch the following graphs:

    (i) $y = \dfrac{1}{x}$

    (ii) $y = \dfrac{2}{x^2}$

    (iii) $y = 2x^3$

    (iv) $y = -x^4$

2. (i) On the same axes, sketch the graphs of $y = \dfrac{2}{x}$ and $y = 8x^3$.

    (ii) Find the coordinates of the points of intersection of the curves.

3. y is directly proportional to x, and when $x = 2$, $y = 10$.
    (i) Find the equation connecting x and y, and sketch its graph.
    (ii) Find the value of y when $x = 20$.

4. y is inversely proportional to x, and when $x = 5$, $y = 2$.
    (i) Find the equation connecting x and y, and sketch its graph.
    (ii) Find the value of y when $x = 4$.