
Core 2: Transformations of Graphs

Past Paper Questions
2006 - 2013

Name:

January 2006

- 6** (a) Describe the geometrical transformation that maps the curve with equation $y = \sin x$ onto the curve with equation:
- (i) $y = 2 \sin x$; (2 marks)
- (ii) $y = -\sin x$; (2 marks)
- (iii) $y = \sin(x - 30^\circ)$. (2 marks)

June 2006

- 8** (a) Describe the single geometrical transformation by which the curve with equation $y = \tan \frac{1}{2}x$ can be obtained from the curve $y = \tan x$. (2 marks)

January 2007 Q8

- (c) Describe the geometrical transformation that maps the graph of $y = \cos x$ onto the graph of $y = \cos 2x$. (2 marks)

June 2007 Q7

- (d) Describe the single geometrical transformation that maps the graph of $y = \tan x$ onto the graph of $y = \tan(x - 20^\circ)$. (2 marks)

January 2008

- 8** (b) Describe a single geometrical transformation that maps the graph of $y = 3^x$:
- (i) onto the graph of $y = 3^{2x}$; (2 marks)
- (ii) onto the graph of $y = 3^{x+1}$. (2 marks)

June 2008 Q8

- (b) (i) Describe a single geometrical transformation that maps the graph of $y = 6^x$ onto the graph of $y = 6^{3x}$. (2 marks)

January 2009 Q4

- (c) Describe a single geometrical transformation that maps the graph of $y = 2x^{\frac{3}{2}}$ onto the graph of $y = 2(x + 3)^{\frac{3}{2}}$. (2 marks)

January 2010 Q6

- (c) Describe a geometrical transformation that maps the graph of $y = 2^x$ onto the graph of $y = 2^{x+7} + 3$. (3 marks)

June 2010 Q8

(c) Describe the geometrical transformation that maps the graph of $y = 2^{4x}$ onto the graph of $y = 2^{4x-3}$. *(2 marks)*

June 2011 Q4

(b) Describe the geometrical transformation that maps the graph of $y = 4^x$ onto the graph of $y = 4^x - 5$. *(2 marks)*

January 2012

5 (a) (i) Describe the geometrical transformation that maps the graph of $y = \left(1 + \frac{x}{3}\right)^6$ onto the graph of $y = (1 + 2x)^6$. *(2 marks)*

January 2013

7 (a) Describe a geometrical transformation that maps the graph of $y = 4^x$ onto the graph of $y = 3 \times 4^x$. *(2 marks)*