

**MATB21: ANSWERS THE EXAM 160423**

- (1) Min=0; Max=  $3/2$ .
- (2)  $y'(0) = -1$ .
- (3)  $15\pi/24$ .
- (4)  $F'(x) = \frac{1}{x} \sin\left(\frac{\pi x}{2}\right)$ .
- (5)  $u(x, y) = -y/x - 1 + \Phi(1/x + 1/y)$  where  $\Phi$  is an arbitrary (smooth) one-variable function.
- (6)  $\pi/6$ .