

7 (a) Given that n is a positive integer, express

$$\frac{7}{3 + 5\sqrt{n}} - \frac{7}{5\sqrt{n} - 3}$$

as a single fraction not involving surds.

[3 marks]

7 (b) Hence, deduce that

$$\frac{7}{3 + 5\sqrt{n}} - \frac{7}{5\sqrt{n} - 3}$$

is a rational number for all positive integer values of n

[1 mark]