9 Solve the following equations.

(a) $\log_5(5x-2) - \log_{25} x = \frac{1}{2}$ [5]

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(b) $e^{3y-7} + \frac{4}{e^3} = \frac{5}{e^{3y-1}}$ [6]

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10 (a) An arithmetic progression has first term a and common difference d.

Given that $S_{20} = 3 \times S_{10}$, find a in terms of d. [3]

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