2. **In this question you must show all stages of your working.**

Solutions relying on calculator technology are not acceptable.

Using the substitution $u = \sqrt{x}$ or otherwise, solve

$$6x + 7\sqrt{x} - 20 = 0$$

(4)

With the given substitution

$$6u^2 - 7u - 20 = 0$$

Factorising $(3u-4)(2u+5) = 0$

$$\Rightarrow u = \frac{4}{3} \text{ or } -\frac{5}{2}$$

So $\sqrt{x} = \frac{4}{3}$ or $\sqrt{x} = -\frac{5}{2}$

In the given equation $+7\sqrt{x} \Rightarrow$ by convention we take the positive root. So $\sqrt{x} = -\frac{5}{2}$ is ~~ead~~ inadmissible.

[Aside $\sqrt{x} = -\frac{5}{2} \Rightarrow x \ \frac{25}{4}$ is a solution of $6x - 7\sqrt{x} - 20 = 0$]

So the required solution here is $x = \frac{16}{9}$

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA