

$$(2x-1)^2 = \frac{8}{9}$$

$$2x-1 = \pm \sqrt{\frac{8}{9}}$$

$$2x-1 = \pm \frac{\sqrt{4 \cdot 2}}{\sqrt{9}}$$

$$2x = 1 \pm \frac{2\sqrt{2}}{3}$$

$$2x = \frac{3}{3} \pm \frac{2\sqrt{2}}{3}$$

$$2x = \frac{3 \pm 2\sqrt{2}}{3}$$

$$\frac{1}{2} \cdot 2x = \frac{1}{2} \cdot \frac{3 \pm 2\sqrt{2}}{3}$$

$$x = \frac{3 \pm 2\sqrt{2}}{6}$$