$$\{e\}$$

$$\sqrt{2} \mapsto \sqrt{2}$$

$$\sqrt{3} \mapsto -\sqrt{3}$$

$$\sqrt{3} \mapsto \pm \sqrt{3}$$

$$\sqrt{2} \mapsto \pm \sqrt{2}$$

$$\mathbb{Q}(\sqrt{2}, \sqrt{3})$$

$$\mathbb{Q}(\sqrt{3})$$

$$\mathbb{Q}(\sqrt{6})$$

$$\mathbb{Q}(\sqrt{6})$$