Discriminant

$b^2 - 4ac$

$b^2 - 4ac < 0$ 0 real solutions, 2 non real sol.

$b^2 - 4ac = 0$ 1 real solution

$b^2 - 4ac > 0$ 2 real solutions

$$2x^2+7x-9=0$$

$a=2 \quad b=7 \quad c=-9$

$$\frac{-7\pm\sqrt{(7)^2-4(2)(-9)}}{2(2)}$$

$$\frac{-7\pm\sqrt{121}}{4}=\frac{-7\pm11}{4}$$

$\frac{-7+11}{4}=\frac{4}{4}=1$

$\frac{-7-11}{4}=\frac{-18}{4}=-\frac{9}{2}$

$x=1$ and $-\frac{9}{2}$

$$4m^2 = 7m + 2$$

$$4m^2 - 7m - 2 = 0$$

$$a = 4 \quad b = -7 \quad c = -2$$

$$\frac{7 \pm \sqrt{(-7)^2 - 4(4)(-2)}}{2(4)}$$

$$\frac{7 \pm \sqrt{81}}{8} = \frac{7 \pm 9}{8} \quad \frac{7+9}{8} = \frac{16}{8} = 2$$

$$\frac{7-9}{8} = \frac{-2}{8} = -\frac{1}{4}$$

$$5w^2 + 4 = w + 6$$
$$-6$$

$$5w^2 - w - 2 = 0$$

$a = 5 \quad b = -1 \quad c = -2$

$$\frac{1 \pm \sqrt{(-1)^2 - 4(5)(-2)}}{2(5)}$$

$$\frac{1 \pm \sqrt{41}}{10} \qquad \frac{1+\sqrt{41}}{10} \text{ or } \frac{1-\sqrt{41}}{10}$$