(11) $r^2 + 7r + 6 = 0$

$-6 \quad -6$

$r^2 + 7r = -6$

1) $\frac{7}{2}$

2) $\left(\frac{7}{2}\right)^2 = \frac{49}{4}$

$r^2 + 7r + \frac{49}{4} = -6 + \frac{49}{4}$

$\sqrt{\left(r + \frac{7}{2}\right)^2} = \sqrt{\frac{25}{4}}$

$r + \frac{7}{2} = \pm \frac{5}{2}$

$-\frac{7}{2} \quad -\frac{7}{2}$

$r = -\frac{7}{2} \pm \frac{5}{2}$

$-\frac{7}{2} + \frac{5}{2} = -\frac{2}{2} = -1$

$-\frac{7}{2} - \frac{5}{2} = -\frac{12}{2} = -6$

$\{-1, -6\}$

(4) $n^2 + 7n - 8 = 0$

$+8 \quad +8$

$n^2 + 7n = 8$

$n^2 + 7n + \frac{49}{4} = 8 + \frac{49}{4}$

$\sqrt{(n+\frac{7}{2})^2} = \sqrt{\frac{81}{4}}$

$n + \frac{7}{2} = \pm \frac{9}{2}$

$-\frac{7}{2} \quad -\frac{7}{2}$

1) $\frac{7}{2}$

2) $(\frac{7}{2})^2 = \frac{49}{4}$

$n = -\frac{7}{2} \pm \frac{9}{2}$

$-\frac{7}{2} + \frac{9}{2} = \frac{2}{2} = 1$

$-\frac{7}{2} - \frac{9}{2} = \frac{-16}{2} = -8$

$\{1, -8\}$

$2x^2 + 8x - 3 = 0$

$+3 \quad +3$

$2x^2 + 8x = 3$

$\frac{2x^2}{2} + \frac{8x}{2} = \frac{3}{2}$

$x^2 + 4x = \frac{3}{2}$

1) $\frac{4}{2} = 2$

2) $2^2 = 4$

$x^2 + 4x + 4 = \frac{3}{2} + 4$

$\sqrt{(x+2)^2} = \sqrt{\frac{11}{2}}$

$x + 2 = \pm\frac{\sqrt{11}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} \therefore \frac{\sqrt{22}}{2}$

$x + 2 = \pm\frac{\sqrt{22}}{2}$

$-2 \quad -2$

$x = -2 \pm \frac{\sqrt{22}}{2}$

$3x^2 + 12x - 4 = 0$
$+4 \quad +4$

$3x^2 + 12x = 4$

$\frac{3x^2}{3} + \frac{12x}{3} = \frac{4}{3}$

$x^2 + 4x = \frac{4}{3}$

$x^2 + 4x + 4 = \frac{4}{3} + 4$

$\sqrt{(x+2)^2} = \sqrt{\frac{16}{3}}$

$x + 2 = \pm \frac{4}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$

$\frac{\pm 4\sqrt{3}}{3}$

1) $\frac{4}{2} = 2$

2) $2^2 = 4$

$x + 2 = \frac{\pm 4\sqrt{3}}{3}$
$-2 \quad -2$

$x = -2 \pm \frac{4\sqrt{3}}{3}$

$5x^2 - 10x - 40 = 0$

$+40 \quad +40$

$5x^2 - 10x = 40$

$\frac{5}{5} \quad \frac{5}{5} \quad \frac{40}{5}$

$x^2 - 2x = 8$

1) $\frac{-2}{2} = -1$

2) $(-1)^2 = 1$

$x^2 - 2x + 1 = 8 + 1$

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

$x - 1 = \pm 3$

$x - 1 = 3$ $\quad x - 1 = -3$

$x = 4$ $\quad x = -2$