

Solve each quadratic in form equation.

3. $(x-5)^2 + 2(x-5) - 35 = 0$

4. $(x-2)^2 - 3(x-2) + 2 = 0$

3. Let $x-5 = t$

$t^2 + 2t - 35 = 0$, According to Viet theorem: $t_1 + t_2 = -2$ and $t_1 \cdot t_2 = -35$.

$$t_1 = -7, t_2 = 5,$$

1) $x_1 - 5 = -7, x_1 = -2$;

2) $x_2 - 5 = 5, x_2 = 10$.

Answer: -2, 10.

4. $(x-2)^2 - 3(x-2) + 2 = 0$

Let $x-2 = t$

$t^2 - 3t + 2 = 0$, According to Viet theorem: $t_1 + t_2 = 3$ and $t_1 \cdot t_2 = 2$.

$$t_1 = 2, t_2 = 1,$$

1) $x_1 - 2 = 2, x_1 = 4$;

2) $x_2 - 2 = 1, x_2 = 3$.

Answer: 4, 3.