

Factoring Summary

GCF *

$$16x^2 + 8x = 0$$

$$\left(\textcircled{8} \right) 2 \cdot \left(\textcircled{x} \right) x + \left(\textcircled{8} \right) 1 \cdot \left(\textcircled{x} \right) = 0$$

$$8x(2x+1) = 0 *$$

$$8x = 0$$

$$\boxed{x = 0}$$

$$2x + 1 = 0$$

$$2x = -1$$

$$\boxed{x = -\frac{1}{2}}$$

GCF ✓

$$x^2 + 16x + 64 = 0$$

$$\begin{array}{ccc} & 64 & \\ & \times & \\ + 8 & & + 8 \\ & + & \\ & 16 & \end{array}$$

x^2	$+ 8$
$+ 8$	64

$(x+8)^2 = 0$

$$(x+8)(x+8) = 0$$

$$x+8 = 0$$

$$\boxed{x = -8}$$

$$x+8 = 0$$

$$x = -8$$

$\boxed{\text{1 solution}}$

$$6x^2 + 18x + 12 = 0$$

$$\textcircled{6} \cdot 1 \cdot x \cdot x + \textcircled{6} \cdot 3 \cdot x + \textcircled{6} \cdot 2 = 0$$

$$\textcircled{6} (x^2 + 3x + 2) = 0$$

$$\begin{array}{c} \diagdown \quad 2 \quad \diagup \\ \quad \quad x \quad \quad \\ +2 \quad \quad +1 \\ \quad \quad + \quad \quad \\ \diagup \quad 3 \quad \diagdown \end{array}$$

$$(x+2)(x+1) = 0$$

$$x+2=0$$

$$\boxed{x = -2}$$

$$x+1=0$$

$$\boxed{x = -1}$$

① GCF

② 3 terms \rightarrow X or $\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array}$