

$$3. \quad X - \sqrt{-2X+7} = 2$$

$$\textcircled{1} \quad X - 2 = \sqrt{-2X+7}$$

$$\textcircled{2} \quad (X-2)^2 = (\sqrt{-2X+7})^2$$

$$(X-2)(X-2) = -2X+7$$

$$X^2 - 2X - 2X + 4 = -2X + 7$$

$$\textcircled{4} \quad X^2 - 4X + 4 = -2X + 7$$

$$X^2 - 4X + 2X + 4 - 7 = 0$$

$$X^2 - 2X - 3 = 0$$

(PSD)

$$(X-3)(X+1) = 0$$

$$X-3=0 \quad X+1=0$$

$$\textcircled{X=3} \quad X=-1$$

$$4. \quad \sqrt{3X+6} - \sqrt{X-1} = 3$$

$$\textcircled{1} \quad \sqrt{3X+6} = 3 + \sqrt{X-1}$$

$$\textcircled{2} \quad (\sqrt{3X+6})^2 = (3 + \sqrt{X-1})^2$$

$$3X+6 = (3 + \sqrt{X-1})(3 + \sqrt{X-1})$$

$$3X+6 = 9 + 3\sqrt{X-1} + 3\sqrt{X-1} + X-1$$

$$\textcircled{1} \quad 3X+6 = X+8 + 6\sqrt{X-1}$$

$$3X-X+6-8 = 6\sqrt{X-1}$$

$$2X-2 = 6\sqrt{X-1}$$

$$\frac{2X}{2} - \frac{2}{2} = \frac{6\sqrt{X-1}}{2}$$

$$X-1 = 3\sqrt{X-1}$$

$$\textcircled{2} \quad (X-1)^2 = (3\sqrt{X-1})^2$$

$$(X-1)(X-1) = 3^2 (\sqrt{X-1})^2$$

$$X^2 - 1X - 1X + 1 = 9(X-1)$$

$$X^2 - 2X + 1 = 9X - 9$$

$$\textcircled{4} \quad X^2 - 2X - 9X + 1 + 9 = 0$$

$$X^2 - 11X + 10 = 0$$

$$(X-1)(X-10) = 0$$

(PSD)

$$X-1=0 \quad X-10=0$$

$$\textcircled{X=1} \quad \textcircled{X=10}$$

### POWER PRINCIPLE

YOU CAN RAISE BOTH SIDES OF AN EQUATION TO A POWER. BE SURE TO CHECK ANSWER(S)

ex:  $X=2 \leftarrow$

$$(X)^{2m} = 2^{2m}$$

$$X^{2m} = 2^{2m}$$