

5.13.15

Write each expression in radical form.

$$t^{-\frac{3}{4}} \quad \frac{1}{t^{\frac{3}{4}}}$$

$$\frac{1}{\sqrt[4]{t^3}}$$

$$x^{\frac{2}{7}}$$

$$\sqrt[7]{x^2}$$

Write each expression in exponential form.

$$\sqrt[3]{(5xy)^6}$$

$$(5xy)^{\frac{6}{3}}$$

$$(5xy)^2$$

OR

$$25x^2y^2$$

$$\sqrt{7x^3}$$

$$7^{\frac{1}{2}}x^{\frac{3}{2}}$$

$$③ \left(\sqrt{2x^2 + 5x} \right)^2 = (-x - 10)^2$$

$$2x^2 + 5x = (-x - 10)(-x - 10)$$

$$2x^2 + 5x = x^2 + 20x + 100$$

	-x	-10
-x	x^2	$10x$
-10	$10x$	100

$$x^2 - 15x - 100 = 0$$

a.c

$$\begin{array}{r} -100 \\ 20 \times 5 \\ + \\ -15 \\ \hline 6 \end{array}$$

$$(x - 20)(x + 5) = 0$$

$$x = 20 \quad x = -5$$

Extraneous

$$\sqrt{2(20)^2 + 5(20)} = -(20) - 10$$

False

$$\sqrt{2(-5)^2 + 5(-5)} = -(-5) - 10 \quad \text{False}$$

$$33) \left(\sqrt[6]{2x+4} \right)^6 = (2)^6$$

$$\begin{array}{r} 2x+4 = 64 \\ -4 \quad -4 \end{array}$$

$$\frac{2x}{2} = \frac{60}{2}$$

$$\boxed{x = 30}$$

$$\sqrt[6]{2(30)+4} = 2 \quad \text{TRUE}$$

$$5) \left(\sqrt{2x^2 + 5x + 2} \right)^2 = (3)^2$$

$$2x^2 + 5x + 2 = \cancel{9} \\ \quad \quad \quad -9 \quad -9$$

$$2x^2 + 5x - 7 = 0$$

$$\sqrt{2(1)^2 + 5(1) + 2} = 3 \\ \text{TRUE}$$

$$\sqrt{2\left(-\frac{7}{2}\right)^2 + 5\left(-\frac{7}{2}\right) + 2} = 3 \\ \text{TRUE}$$

a.c

7	-2
5	-7

$\begin{matrix} 2x & 7 \\ -1 & \end{matrix}$

$$b \quad (x-1)(2x+7)=0$$

$$x-1=0 \quad 2x+7=0$$

$$x=1$$

$$x=-7/2$$

$$(19) (x)^2 = (\sqrt{7x+8})^2$$

$$x^2 = 7x + 8$$

$$x^2 - 7x - 8 = 0$$

$$\begin{array}{c} \diagup -8 \diagdown \\ 8 \quad 1 \\ \diagdown -7 \diagup \end{array} \quad (x-8)=0 \quad (x+1)=0$$

$$x=8 \quad x=-1$$