

## Algebra II

pg 280

2)	$\{16\}$	18)	$\{-3, -2\}$	28)	$\{2, 6\}$
4)	$\emptyset$	20a)	$\{16\}$	30)	$\emptyset$
6)	$\{\pm 4\}$	b)	$\{4\sqrt{3}\}$	32)	$\{0\}$
8)	$\{16\}$	22a)	$\{4\}$	35a)	$10 - 5\sqrt{2}$
10)	$\{3\}$	b)	$\{2\sqrt{3}\}$	b)	$2\sqrt{6}$
12)	$\{8\}$	24a)	$\{\frac{1}{9}, 4\}$	36a)	$9 - 3\sqrt{3}$
14)	$\{3\}$	b)	$\{-3 - \sqrt{7}\}$	b)	use the fact that $\sqrt[4]{x} = \sqrt{\sqrt{x}}$
16)	$\{9\}$	26)	$\{16\}$		

$$8) (\sqrt[3]{2w-5})^3 = (3)^3$$

$$2w-5 = 27$$

$$2w = 32$$

$$w = 16$$

$$\{16\}$$

$$10) 7 - \sqrt[3]{9c} = 4$$

$$(\sqrt[3]{9c})^3 = (+3)^3$$

$$9c = 27$$

$$c = 3$$

$$\{3\}$$

$$12) \frac{\sqrt[3]{x}}{2} = \sqrt[3]{x-7}$$

$$(\sqrt[3]{x})^3 = (2\sqrt[3]{x-7})^3$$

$$x = 8(x-7)$$

$$x = 8x - 56$$

$$-7x = -56$$

$$x = 8$$

$$\{8\}$$

$$\begin{aligned}
 28) \quad & \sqrt{3a-2} - \sqrt{2a-3} = 1 \\
 & (\sqrt{3a-2})^2 = (1 + \sqrt{2a-3})^2 \quad (\text{blue circle around } (1 + \sqrt{2a-3})^2) \\
 & 3a-2 = 1 + \sqrt{2a-3} + \sqrt{2a-3} + 2a-3 \\
 & 3a-2 = 2a-2 + 2\sqrt{2a-3} \\
 & (a)^2 = (2\sqrt{2a-3})^2 \\
 & a^2 = 4(2a-3) \\
 & a^2 = 8a-12 \\
 & a^2 - 8a + 12 = 0 \\
 & (a-2)(a-6) = 0 \\
 & \{2, 6\}
 \end{aligned}$$

$$24b) \quad 3x = x\sqrt{7} - 2$$

$$(3x+2)^2 = (x\sqrt{7})^2$$

$$9x^2 + 12x + 4 = 7x^2$$

$$2x^2 + 12x + 4 = 0$$

$$2(x^2 + 6x + 2) = 0$$

prime

$$(3x+2)(3x+2)$$
$$9x^2 + 6x + 6x + 4$$

$$3x = x\sqrt{7} - 2$$

$$3x - x\sqrt{7} = -2$$

$$x(3 - \sqrt{7}) = -2$$

$$x = \frac{-2}{(3 - \sqrt{7})} \cdot \frac{(3 + \sqrt{7})}{(3 + \sqrt{7})}$$

$$x = \frac{-2(3 + \sqrt{7})}{9 - 7} = \frac{-2(3 + \sqrt{7})}{2}$$

$$\{-3 - \sqrt{7}\}$$