

1.5 day 4 hw

Friday, September 6, 2013
8:28 AM

pg. 94 23, 45, 57, 63, 79, 80

23. $(n-3)^2 = -4$

$$n-3 = \pm \sqrt{-4}$$

$$n-3 = \pm 2i$$

$$n = 3 \pm 2i$$

45. $x^2 = 3x + 1$

$$x^2 - 3x - 1 = 0$$

$$b^2 - 4ac = 13$$

$$x = \frac{3 \pm \sqrt{13}}{2}$$

57. $s = \frac{1}{2} g t^2$

$$2s = g t^2$$

$$\frac{2s}{g} = t^2$$

$$t = \sqrt{\frac{2s}{g}} \quad \text{use } \oplus \sqrt{\quad}$$

$$= \frac{\sqrt{2sg}}{g}$$

63. $x^2 + 3ix - 2 = 0$

$$b^2 - 4ac = (3i)^2 - 4(1)(-2) \\ = -9 + 8 \\ = -1$$

$$x = \frac{-3i \pm \sqrt{-1}}{2}$$

$$= \frac{-3i \pm i}{2} = \begin{cases} \frac{-3i+i}{2} = -i \\ \frac{-3i-i}{2} = -2i \end{cases}$$

79. $2n \cdot (2n+2) = 168$

$$4n^2 + 4n = 168$$

$$4n^2 + 4n - 168 = 0$$

$$n^2 + n - 42 = 0$$

$$(n+7)(n-6) = 0$$

$$n = -7, 6$$

So 14, 12

80. $x + \frac{1}{x} = \frac{10}{3}$

$$\frac{3x^2}{3x} + \frac{3}{3x} = \frac{10x}{3x}$$

$$3x^2 - 10x + 3 = 0$$

$$3x^2 - 9x - 1x + 3 = 0$$

$$3x(x-3) - 1(x-3) = 0$$

$$(x-3)(3x-1) = 0$$

$$x = 3, 43$$