

April 20, 2015

11. a
#14) $\left(\frac{1}{2}x^2 = x - \frac{1}{2}\right)$

$$x^2 = 2x - 1$$

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

a b c

$$b^2 - 4ac = (-2)^2 - 4(1)(1)$$

$$= 4 - 4$$

$$= 0$$

$$x = \frac{-(-2) \pm \sqrt{0}}{2(1)}$$

$$= \frac{2}{2} = 1$$

$x = 1$

Apr 20-9:53 AM

#16) $x^2 - 5 = 0$

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

a = 1, b = 0, c = -5

$$b^2 - 4ac = (0)^2 - 4(1)(-5)$$

$$= 0 + 20$$

$$= 20$$

$20 > 0 \rightarrow 2$ real solutions

Apr 20-10:26 AM

$$5 + 0i = 5 + 0$$

$$= 5$$

Apr 20-10:29 AM

#19)

$$8 = 4x - 5x^2$$

$$0 = -5x^2 + 4x - 8$$

a = -5, b = 4, c = -8

$$b^2 - 4ac = (4)^2 - 4(-5)(-8)$$

$$= 16 + 20(-8)$$

$$= 16 - 160$$

$$= -144$$

So, $-144 < 0 \rightarrow 2$ Complex solutions

Apr 20-10:29 AM

Solve by any means!

$$\left(\sqrt{16x}\right)^2 = (x + 3)^2$$
 FOIL
$$16x = x^2 + 6x + 9$$

$-16x$ $-16x$

$$0 = x^2 - 10x + 9$$

$$0 = (x - 9)(x - 1)$$

$-x$
 $-9x$
 $-10x$

① $x = 9$
② $x = 1$

Apr 20-10:32 AM

$$x - \sqrt{17 - 4x} - 3 = 0$$

$$+ \sqrt{17 - 4x}$$

$$(x - 3)^2 = (\sqrt{17 - 4x})^2$$

$$x^2 - 6x + 9 = 17 - 4x$$

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

$$b^2 - 4ac = (-2)^2 - 4(1)(-8)$$

$$= 4 + 32$$

$$= 36$$

$$(x - 4)(x + 2) = 0$$

① $x = 4$
② $x = -2$

Apr 20-10:37 AM

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

$$x = \frac{-(-2) \pm \sqrt{36}}{2}$$

$$= \frac{2 \pm 6}{2} = \frac{2}{2} \pm \frac{6}{2}$$

$$\textcircled{1} \quad x = \frac{2}{2} = 4 \quad \textcircled{1} \quad \begin{array}{l} 1 + 3 = 4 \\ 1 - 3 = -2 \end{array}$$

$$\textcircled{2} \quad x = \frac{-4}{2} = -2$$

Apr 20-10:48 AM