Name:_____   Date:_____

Pre-Calculus 11 HW 4.3 Solving Quadratic Equations by CTS

1. Solve each of the following equations algebraically:

|		
a) $(x-3)^2 - 12 = 0$	b) $(2x+4)^2 - 16 = 0$	c) $-4(x+7)^2 + 14 = 0$
d) $0.5(x+11)^2 - 11 = 0$	e) $(x+5)^2 + 12 = 0$	f) $\dfrac{(2x+1)^2}{3} - 15 = 0$

2. Solve each of the following quadratic equations by Completing the Square. Please show all your steps:

a) $0 = 3x^2 + 8x - 5$	b) $0 = 5x^2 + 12x - 3$
c) $4x^2 = 2 - 13x$	d) $0 = 5x^2 + 12x - 3$

3. The equation of a parabola is given by the equation: $y = 3x^2 + 5x - 10$. Find the roots [aka: coordinates of the x-intercepts] by completing the square:

4. The sum of an arithmetic series is given by the equation: $S = \dfrac{n}{2}\left(2 \times a + [n-1]d\right)$, where "n" is the number of terms, "a" is the first term, and "d" is the common difference. If the first term *"a"* is 10, common difference *"d"* is 4, and the sum *"S"* is 1144, find the number of terms *"n"* in the series.

5. A rectangular playground (16m by 32m) has a walkway around it as shown below. If adding the walkway doubles the area of the playground, find the value of "x":
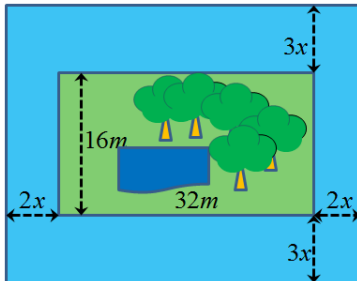
6. Jason bought a 75" television at Costco. He knows that the screen aspect ratio is 16:9 [width to height]. Besides the screen, there is also a uniform border of 2" around. What is the width of the TV?