Name: _____ Date: _____

Learning Goal 4.2	Given a quadratic equation, find the values of solution(s) by factoring, completing the square or using the quadratic formula.

When factoring fails you …

Example Solve the following equations by completing the square.

a. $x^2 - 4x = 11$

b. $x^2 - 21 = -10x$

c. $2x^2 + 7x = -6$

d. $2x^2 + 3x = 7$

Example The circular Toonie coin consists of an aluminum and bronze core and a nickel outer ring. If the radius of the inner core is 0.84 cm and the area of the circular face of the coin is 1.96π cm^2, what is the width of the outer ring?

Example A defender kicks a soccer ball away from her own goal. The path of the kicked soccer ball can be approximated by the quadratic function

$$h(x) = -0.06x^2 + 3.168x - 35.34$$

where *x* is the horizontal distance travelled in metres, from the goal line and *h* is the height.

a. How far is the soccer ball from the goal line when it is kicked?

b. How far does the soccer ball travel before it hits the ground?