OTL – Solving Quadratic Equations by Factoring

1. Find the roots of each quadratic equation.

   a. $0 = \left(x + 5\right)(x + 2)$
   b. $0 = (x - 3)(x + 4)$
   c. $0 = (x - 1)(x - 7)$
   d. $0 = x(x + 9)$
   e. $0 = (2x + 3)\left(3x - 5\right)$

2. Find the roots of each quadratic equation.

a. $0 = x^2 + 8x + 12$
b. $0 = x^2 + 3x$
c. $x^2 + 5x = -4$
d. $x^2 = 7x$
e. $3x^2 + 24x + 45 = 0$

3. A basketball is tossed from the top of a 3-m wall.

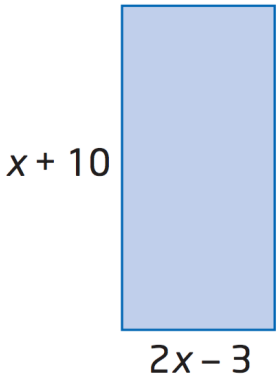
   The path of the basketball is defined by the relation $y = -x^2 + 2x + 3$, where x represents the horizontal distance travelled, in metres, and y represents the height, in metres, above the ground.

   How far has the basketball travelled horizontally when it lands on the ground?

4. A rectangle has dimensions $x + 10$ and $2x - 3$.

   Determine the value of x that gives an area of 54 cm^2 .

   Remember that the area of a rectangle is defined by $A = lw$.



5. Write a quadratic equation, in standard form, that has roots of 5 and -8.

6. Find the x-intercepts for each quadratic relation.

   a. $y = x^2 + 5x + 6$
   b. $y = x^2 + 9x$
   c. $y = x^2 + 9x - 36$
   d. $y = 4x^2 + 20x + 9$
   e. $y = 3x^2 - 13x + 4$