

**Quadratic Functions – Part 1**  
**Solving Other Quadratics by Factoring**  
**Independent Practice**

1. Solve for  $x$ :  $2x^2 + 3x = 2$ .

2. What are the solutions to  $16x^2 - 12x = 54$ ? Select all that apply.

$-\frac{9}{2}$

$\frac{3}{4}$

$-\frac{9}{4}$

$\frac{3}{2}$

$-\frac{3}{2}$

$\frac{9}{4}$

$-\frac{3}{4}$

3. The area of a rooftop can be expressed as  $9x^2 + 6x + 1$ . The rooftop is a quadrilateral.

What type of quadrilateral is the rooftop? Justify your answer.

If the area of the rooftop is  $361 \text{ m}^2$ , what is the length of one side of the rooftop?



4. The area of a rectangle is  $12a^2 - a - 6$  square inches. The width is  $4a - 3$  inches. What is the length?

- Ⓐ  $(8a - 4)$  inches
- Ⓑ  $(3a - 2)$  inches
- Ⓒ  $(3a + 2)$  inches
- Ⓓ  $(8a + 4)$  inches

5. A packing company is doing an inventory of boxes. Their most popular box is display below:



You can use the formula  $V = lwh$  to find the volume of a box.

The volume of the box is  $40 \text{ ft}^3$ . What is the value of  $x$ ? Find the length and the width of the box. Describe any extraneous solutions.