

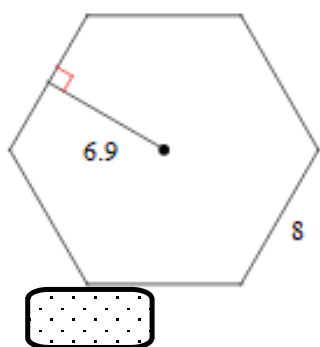
**Learning Goal:** Today I will learn how to use quadratics to solve for the area of a shape.

**Success Criteria:** I am able to set up and solve an equation in factored form.

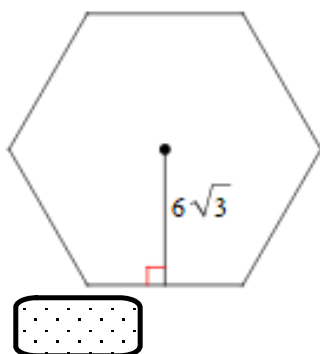
### Warm Up

Find the area of each of the following.

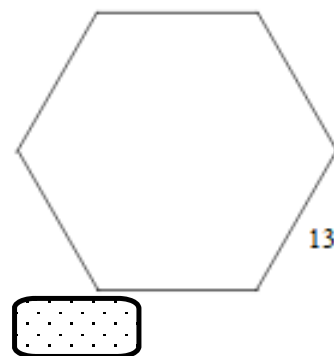
1)



2)



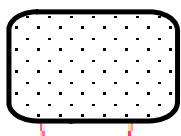
3)



# Area Using Quadratics

$$1) x^2 - 5x - 4 = 2$$

$-2 - 2$



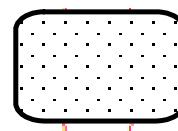
$$x^2 - 5x - 6$$
$$(x-3)(x-2)$$

$$(x-6)(x+1)$$

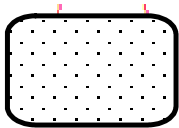
$$x = 6$$

$$x = -1$$

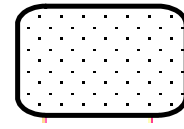
$$2) v^2 - 5v + 6 = 2$$



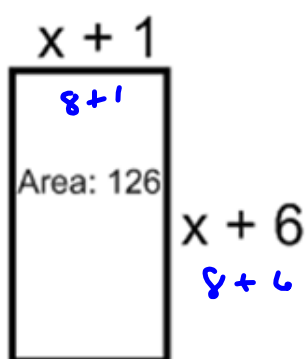
$$3) x^2 + 3x - 12 = 6$$



$$4) k^2 + 5k + 1 = -3$$



Find the dimensions:



$$9 \times 14$$

$$(x+1)(x+6) = 126$$

$$120$$

$$x^2 + 6x + x + 6$$

$$x^2 + 7x + 6 = 126$$

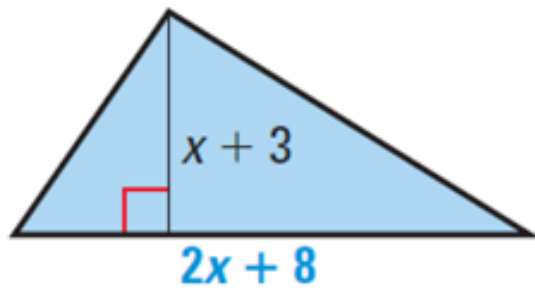
$$-126 \quad -126$$

$$x^2 + 7x - 120$$

$$(x+15)(x-8)$$

$$x = -15 \quad x = 8$$

Area of triangle = 42



**Closure:** Today I learned how to use quadratics to find the area of a rectangle.



Work on worksheet

