

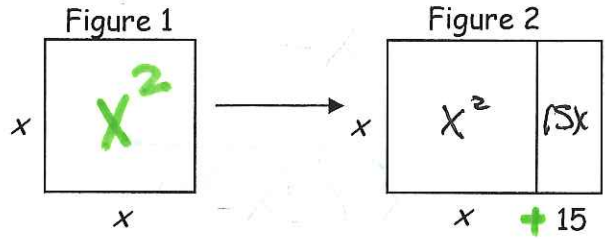
Single Distribution

Homework

Name Key

Date \_\_\_\_\_ Period \_\_\_\_\_

1. a. What is the area of Figure 1?  $X^2$



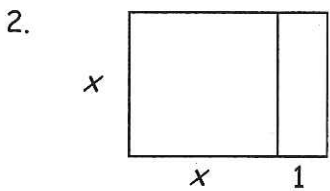
b. Write two expressions for the area of Figure 2.

Factored form  $X(X+15)$

Standard form  $X^2 + 15X$

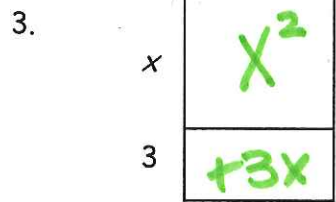
c. How much greater is the area of Figure 2 than Figure 1?  $15X$

For each of the figures below write two expressions for the area of the entire figure, one in factored form and one in standard form.



Factored form  $X(X+1)$

Standard form  $X^2 + X$



Factored form  $X(X+3)$

Standard form  $X^2 + 3X$

Simplify each expression, and write in standard form.

4.  $x(3x-4)$

$3X^2 - 4X$

5.  $-5x(x^2+3x-1)$

$-5X^3 - 15X^2 + 5X$

6.  $x^2 - 2x(x+4)$

$-X^2 - 8X$

7.  $6x^2 - 2(3x^2 - 2x + 4)$

$4X - 8$

8.  $x(4x-2) + 3x(x+1)$

$7X^2 + X$

9.  $x^2(x^3+3x)$

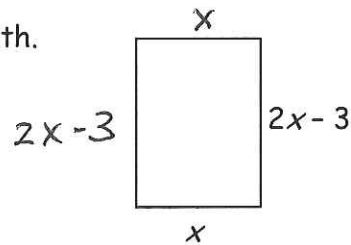
$X^5 + 3X^3$

10. The length of a rectangular photograph is 3 inches less than twice its width.

-3      2.w

a. Find the perimeter of the rectangle.

$$6x - 6$$



b. Write a polynomial in factored form to represent the area of the rectangle.

$$x(2x-3)$$

c. Write a polynomial in standard form to represent the area of the rectangle.

$$2x^2 - 3x$$

d. Find the area of the rectangle when the width is 4 inches. → when x=4

$$f(x) = 2x^2 - 3x$$

$$S.A. = 2(4)^2 - 3(4)$$

$$S.A. = 20$$

20 in<sup>2</sup>

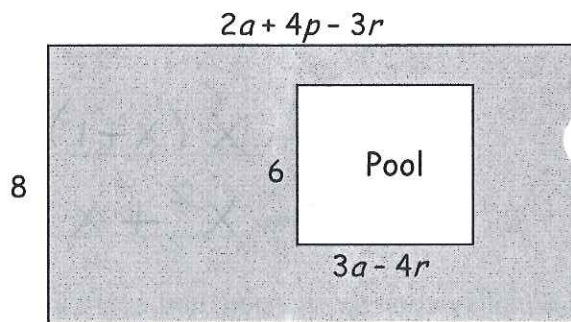
11. Melody wants to plant grass in her backyard. The dimensions of her yard and the swimming pool in her yard are shown. Simplify all answers.

a. Find the area of the swimming pool.

$$6(3a-4r)$$

18a - 24r

 sq. units



b. Find the area of the yard.

$$8(2a + 4p - 3r)$$

16a + 32p - 24r

 sq. units

c. Find the area of the yard not covered by the swimming pool.

$$(16a + 32p - 24r) - (18a - 24r)$$

-2a + 32p

 sq. units