

10-4 Multiplying Polynomials

Simplify.

$$1. x(x - 5)$$

$$x^2 - 5x$$

Warm-Up

$$2. y^2(9 - 4xy)$$

$$9y^2 - 4xy^3$$

$$3. -x(7xy - 3x)$$

$$-7x^2y + 3x^2$$

$A = l \cdot w$ Algebra 10-4 Multiplying Polynomials *length*

1. Find the total area.

$$5x^3 + 39x^2 + 31x + 21$$

2. Write the area as length times width.

$$\begin{matrix} l & \cdot & w \\ (5x^2 + 4x + 3) & (x + 7) \end{matrix}$$

	$5x^2$	$4x$	3
<i>width</i>	$5x^3$	$4x^2$	$3x$
	$35x^2$	$28x$	21

\times
7

Try On Your Own

1. $(n-5)(2n^2 - 3n + 7)$

$$2n^3 - 13n^2 + 22n - 35$$

	$2n^2 - 3n + 7$		
n	$2n^3$	$-3n^2$	$7n$
-5	$-10n^2$	$15n$	-35

2. $(w^2 + 4w + 6)(w^2 + w + 1)$

$$w^4 + 5w^3 + 11w^2 + 10w + 6$$

	$w^2 + 4w + 6$		
w^2	w^4	$4w^3$	$6w^2$
$+w$	w^3	$4w^2$	$6w$
$+1$	w^2	$4w$	6

Assignment: 10-4 #'s 4-7, 9-11, 13, 14, 21, 24

4. $(y^2 + 7y + 2)(y + 6)$

$$y^3 + 13y^2 + 44y + 12$$

	$y^2 + 7y + 2$		
$1y$	y^3	$7y^2$	$2y$
$+6$	$6y^2$	$42y$	12

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

$$2x^3 + 5x^2 + 2x - 1$$

	$2x^2 + 3x - 1$		
x	$2x^3$	$3x^2$	$-x$
$+1$	$2x^2$	$3x$	-1