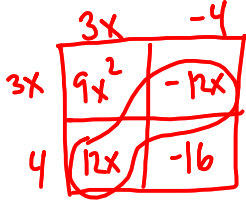


1.1 Multiply and Factor Polynomials

PRACTICE

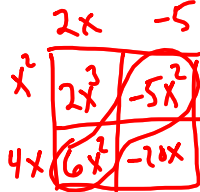
Directions: Find the product! SHOW WORK.

1) $(3x - 4)(3x + 4)$



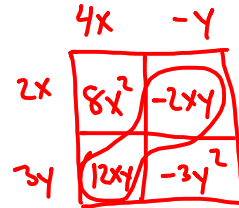
$9x^2 - 16$

2) $(2x - 5)(x^2 + 4x)$



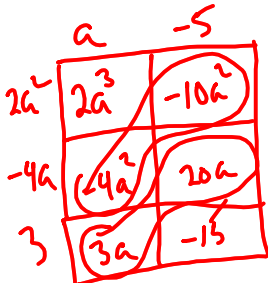
$2x^3 + x^2 - 20x$

3) $(4x - y)(2x + 3y)$



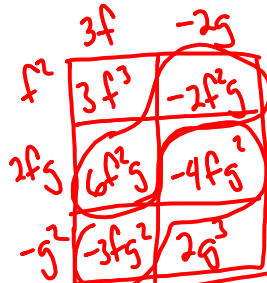
$8x^2 + 10xy - 3y^2$

4) $(a - 5)(2a^2 - 4a + 3)$



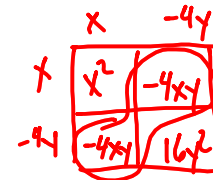
$2a^3 - 14a^2 + 23a - 15$

5) $(3f - 2g)(f^2 + 2fg - g^2)$



$3f^3 + 4f^2g - 7fg^2 + 2g^3$

6) $(x - 4y)^2 = (x - 4y)(x - 4y)$



$x^2 - 8xy + 16y^2$

Directions: Factor each polynomial.

7) $x^2 - 3x - 54$

Leading coefficient is 1 so no need for whole box.

$x: -54$
 $+: -3$

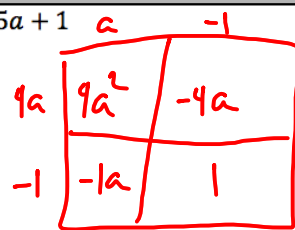
 $-9, 6$

$(x - 9)(x + 6)$

8) $4a^2 - 5a + 1$

$x: 4$
 $+: -5$

 $-4, -1$

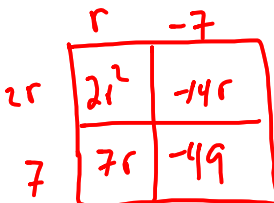


$(4a - 1)(a - 1)$

9) $2r^2 - 7r - 49$

$x: -98$
 $+: -7$

 $-14, 7$

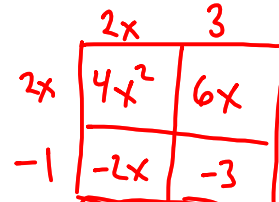


$(2r + 7)(r - 7)$

10) $4x^2 + 4x - 3$

$x: -12$
 $+: 4$

 $6, -2$



$(2x - 1)(2x + 3)$

<p>11) $x^2 - 49$ $x: -49$ $+ : 0$ <u>7, -7</u> Leading Coefficient is 1 so no need for whole box. $(x+7)(x-7)$</p>	<p>12) $5n^2 - 6n - 8$ $x: -40$ $+ : -6$ <u>-10, 4</u> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">n</td><td style="padding: 0 5px;">-2</td></tr> <tr><td style="padding: 0 5px;">$5n$</td><td style="border: 1px solid black; padding: 5px;">$5n^2$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">$-10n$</td></tr> <tr><td style="padding: 0 5px;">4</td><td style="border: 1px solid black; padding: 5px;">$4n$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">-8</td></tr> </table> $(5n+4)(n-2)$</p>	n	-2	$5n$	$5n^2$		$-10n$	4	$4n$		-8																					
n	-2																															
$5n$	$5n^2$																															
	$-10n$																															
4	$4n$																															
	-8																															
<p>13) $x^2 + 3x - 70$ $x: -70$ $+ : 3$ <u>10, -7</u> Leading Coefficient is 1 so no need for whole box. $(x+10)(x-7)$</p>	<p>14) $4h^2 - 13h - 12$ $x: -48$ $+ : -13$ <u>-16, 3</u> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">h</td><td style="padding: 0 5px;">-4</td></tr> <tr><td style="padding: 0 5px;">$4h$</td><td style="border: 1px solid black; padding: 5px;">$4h^2$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">$-16h$</td></tr> <tr><td style="padding: 0 5px;">3</td><td style="border: 1px solid black; padding: 5px;">$3h$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">-12</td></tr> </table> $(4h+3)(h-4)$</p>	h	-4	$4h$	$4h^2$		$-16h$	3	$3h$		-12																					
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	$-16h$																															
3	$3h$																															
	-12																															
Directions: Choose the best answer.																																
<p>15) Factor: $5n^2 + 8n - 21$ $x: -105$ $+ : 18$ $\{15, -7$ a) $(n-7)(5n-3)$ b) $(5n+7)(n+3)$ c) $(n-7)(5n+3)$ <input checked="" type="radio"/> d) $(5n-7)(n+3)$ <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">n</td><td style="padding: 0 5px;">3</td></tr> <tr><td style="padding: 0 5px;">$5n$</td><td style="border: 1px solid black; padding: 5px;">$5n^2$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">$15n$</td></tr> <tr><td style="padding: 0 5px;">-7</td><td style="border: 1px solid black; padding: 5px;">$-7n$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">-21</td></tr> </table></p>	n	3	$5n$	$5n^2$		$15n$	-7	$-7n$		-21	<p>16) Multiply: $(x-2y)^2 = (x-2y)(x-2y)$ a) $x^2 + 4y^2$ <input checked="" type="radio"/> b) $x^2 - 4xy + 4y^2$ c) $x^2 - 4y^2$ d) $x^2 + 4xy - 4y^2$ <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">x</td><td style="padding: 0 5px;">$-2y$</td></tr> <tr><td style="padding: 0 5px;">x</td><td style="border: 1px solid black; padding: 5px;">x^2</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">$-2xy$</td></tr> <tr><td style="padding: 0 5px;">$-2y$</td><td style="border: 1px solid black; padding: 5px;">$-2xy$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">$+4y^2$</td></tr> </table></p>	x	$-2y$	x	x^2		$-2xy$	$-2y$	$-2xy$		$+4y^2$	<p>17) Factor: $16x^2 - 25y^2$ $x: -400$ $+ : 0$ a) $(4x-5y)(4x-5y)$ b) $(4x+5)(4x-5)$ <input checked="" type="radio"/> c) $(4x+5y)(4x-5y)$ d) $(4x+5y)(4x+5y)$ <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr><td style="padding: 0 5px;">$4x$</td><td style="padding: 0 5px;">$5y$</td></tr> <tr><td style="padding: 0 5px;">$4x$</td><td style="border: 1px solid black; padding: 5px;">$16x^2$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">$20xy$</td></tr> <tr><td style="padding: 0 5px;">$-5y$</td><td style="border: 1px solid black; padding: 5px;">$-20xy$</td></tr> <tr><td style="padding: 0 5px;"></td><td style="border: 1px solid black; padding: 5px;">$-25y^2$</td></tr> </table></p>	$4x$	$5y$	$4x$	$16x^2$		$20xy$	$-5y$	$-20xy$		$-25y^2$
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