

Review #2: Factoring

Score: _____ / 7

Group Members: _____

Hint from teacher

Ask another group

Look in Notes

Factor.

<p>1. $4x^2 - 121$</p> $(2x - 11)(2x + 11)$	<p>2. $81x^2 + 25$</p> PRIME!																																	
<p>3. $x^3 + 27$</p> $(x + 3)(x^2 - 3x + 9)$ <p style="text-align: right;">$A = x$ $B = 3$</p>	<p>4. $x^4 - 16$</p> $(x^2 - 4)(x^2 + 4)$ $(x - 2)(x + 2)(x^2 + 4)$																																	
<p>5. $9a^2 - 56a + 12$</p> $\begin{array}{r} 9a^2 - 2a - 54a + 12 \\ \underline{a} \quad \quad \underline{-6} \\ a(9a - 2) - 6(9a - 2) \end{array}$ $(9a - 2)(a - 6)$ <table style="margin-left: auto; margin-right: 0;"> <tr><td></td><td style="text-align: center;"><u>108</u></td><td></td></tr> <tr><td></td><td style="text-align: center;">1 108</td><td></td></tr> <tr><td></td><td style="text-align: center;">-2 -54</td><td></td></tr> <tr><td></td><td style="text-align: center;">3 36</td><td></td></tr> <tr><td></td><td style="text-align: center;">4 27</td><td></td></tr> <tr><td></td><td style="text-align: center;">6 18</td><td></td></tr> <tr><td></td><td style="text-align: center;">9 12</td><td></td></tr> </table>		<u>108</u>			1 108			-2 -54			3 36			4 27			6 18			9 12		<p>6. $4x^2 - 2x - 20$</p> $\begin{array}{r} 4x^2 - 2x - 20 \\ \underline{2} \\ 2(2x^2 - x - 10) \end{array}$ <table style="margin-left: auto; margin-right: 0;"> <tr><td></td><td style="text-align: center;"><u>20</u></td><td></td></tr> <tr><td></td><td style="text-align: center;">1 20</td><td></td></tr> <tr><td></td><td style="text-align: center;">2 10</td><td></td></tr> <tr><td></td><td style="text-align: center;">+4 -5</td><td></td></tr> </table> $2 \left(\frac{2x^2 + 4x}{2x} - \frac{5x - 10}{-5} \right)$ $2 [2x(x + 2) - 5(x + 2)]$ $2(x + 2)(2x - 5)$		<u>20</u>			1 20			2 10			+4 -5	
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7. $3x^2 - 7xy + 2y^2$

$$\frac{3x^2 - 1xy - 6xy + 2y^2}{x \quad -2y} \quad \begin{array}{r} 6 \\ -1 \quad -6 \\ 2 \quad 3 \end{array}$$

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

$$\boxed{(3x-y)(x-2y)}$$

8. $\frac{2x^3 + 18x^2 - 5x - 45}{2x^2 - 5}$

$$2x^2(x+9) - 5(x+9)$$

$$\boxed{(x+9)(2x^2-5)}$$

9. $3x^2(3x+4)^2 + x^3 \cdot 2(3x+4) \cdot 3$

$$\frac{3x^2(3x+4)^2}{3x^2(3x+4)} + \frac{6x^2(3x+4)}{3x^2(3x+4)}$$

$$3x^2(3x+4) [(3x+4) + 2]$$

$$3x^2(3x+4)(3x+6)$$

$$3x^2(3x+4)(3)(x+2)$$

$$\boxed{9x^2(3x+4)(x+2)}$$

10. $2(3x-5) \cdot 3(2x+1)^3 + (3x-5)^2 \cdot 3(2x+1)^2 \cdot 2$

$$\frac{6(3x-5)(2x+1)^3}{6(3x-5)(2x+1)^2} + \frac{6(3x-5)^2(2x+1)^2}{6(3x-5)(2x+1)^2}$$

$$6(3x-5)(2x+1)^2 [(2x+1) + (3x-5)]$$

$$\boxed{6(3x-5)(2x+1)^2(5x-4)}$$