


<b>F</b> = _____	<b>O</b> = _____	<b>I</b> = _____	<b>L</b> = _____
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Factor #1-8 using the FOIL method or GCF (Greatest Common Factor.)

Solve #9-16 by factoring, then apply zero product property.

1. $\sin^2 x + 8\sin x - 48 = ( \quad )( \quad )$ 	2. $3x^2 + 7x + 2 = ( \quad )( \quad )$
3. $8x^2y + 20xy$	4. $\sin^2 x - 15\sin x + 50$
5. $7\sin^2 x - 9\sin x + 2$	6. $9x^2 - 9xy + 2y^2$
7. $3x^2 - 20xy - 7y^2$	8. $2\sin^2 x - \sin x$
9. $6x^2 + 3x = 0$	10. $4x^2 - 11x + 7 = 0$
11. $6x^2 + 5x = -1$	12. $3x^2 + 2x + 4 = 5$
13. $3x^2 + 14x + 5 = 10$	14. $2\sin^2 \theta - \sin \theta = 0$ <i>→hint: factor GCF as in problem #8, set equal to 0, then find 4 solutions for <math>0 \leq \theta &lt; 2\pi</math></i>
15. $2\cos^2 \theta + 5\cos \theta - 3 = 0$ <i>→hint: factor using FOIL, set equal to 0, then find 2 solutions for <math>0 \leq \theta &lt; 2\pi</math></i>	16. $\sqrt{3} \tan \theta + \tan^2 \theta = 0$ <i>→hint: similar to #14</i>

<b>CHECK ANSWERS:</b>																			
$\sin x - 10$	$\sin x - 5$	$\sin x - 4$	$\sin x - 1$	$\sin x$	$\sin x + 12$	$2\sin x - 1$	$7\sin x - 2$												
$x - 7y$	$3x - y$	$3x - 2y$	$x + 2$	$2x + 5$	$3x + 1$	$3x + y$	$4xy$												
-5	-1	$-\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{3}$	0	0	0	$\frac{1}{3}$	$\frac{1}{3}$	1	$\frac{7}{4}$	$\frac{\pi}{3}$	$\frac{2\pi}{3}$	$\frac{5\pi}{3}$	$\frac{5\pi}{3}$	$\frac{\pi}{6}$	$\frac{5\pi}{6}$	$\pi$	$\pi$