

1.1 Factor the following completely:

1.  $2x^2 - 5x$   
 $2x^2 - 5x = x(2x - 5)$

2.  $x^2 + 2x - 15$   
 $(x+5)(x-3)$   
 $x^2 + 5x - 3x - 15$   
 $x(x+5) - 3(x+5)$   
 $(x-3)(x+5)$

3.  $3x^2 - 27$   
 $3(x^2 - 9)$   
 $3(x+3)(x-3)$

1.2 Factor the following quadratics by grouping:

1.  $x^2 + 2x - 15$   
 $x^2 + 5x - 3x - 15$   
 $x(x+5) - 3(x+5)$   
 $(x-3)(x+5)$

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 $x^2 + 5x - 3x - 15$   
 $x(x+5) - 3(x+5)$   
 $(x-3)(x+5)$

2.  $x^2 + 10x + 24$   
 $x^2 + 6x + 4x + 24$   
 $x(x+6) + 4(x+6)$   
 $(x+6)(x+4)$

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 $x^2 + 6x + 4x + 24$   
 $x(x+6) + 4(x+6)$   
 $(x+6)(x+4)$

1.3 Identify the factors of each equation and write the corresponding:

1.  $x^2 - 16 = 0$   $(x+4)(x-4)$   
 2.  $x^2 - 25 = 0$   $(x+5)(x-5)$   
 3.  $x^2 - 36 = 0$   $(x+6)(x-6)$

1.  $x^2 - 16 = 0$   $(x+4)(x-4)$   
 2.  $x^2 - 25 = 0$   $(x+5)(x-5)$   
 3.  $x^2 - 36 = 0$   $(x+6)(x-6)$