

# Recap 8

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## Recap 8



Factor completely.

1.  $3x^2 + 15x$

2.  $x^2 + 10x - 24$

3.  $8x^2 - 18y^2$

4.  $6x^2 - 5x - 6$

Recap 8



Factor completely.

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

check:  $3x(x+5)$   
 $= 3x^2 + 15x$

2.  $x^2 + 10x - 24$

| sum   | product |
|-------|---------|
| 10    | -24     |
| 1, 24 |         |
| 2, 12 |         |
| 3, 8  |         |
| 4, 6  |         |

one number must be +, the other -  
 12, -2

$= (x - 2)(x + 12)$

check:  $(x-2)(x+12)$   
 $= x^2 + 12x - 2x - 24$   
 $= x^2 + 10x - 24$

3.  $8x^2 - 18y^2$

$= 2(4x^2 - 9y^2)$   
 $= 2(2x - 3y)(2x + 3y)$

check:  $2(2x-3y)(2x+3y)$   
 $= 2(4x^2 + 6x - 6xy - 9y^2)$   
 $= 2(4x^2 - 9y^2)$   
 $= 8x^2 - 18y^2$

4.  $6x^2 - 5x - 6$

$AC = 6(-6) = -36$

| sum | product |
|-----|---------|
| -5  | -36     |
|     | 1, 36   |
|     | 2, 18   |
|     | 3, 12   |
|     | 4, 9    |
|     | 6, 6    |

one +, one -  
 4 and -9

$6x^2 + 4x - 9x - 6$   
 $= 2x(3x + 2) - 3(3x + 2)$   
 $= (3x + 2)(2x - 3)$

check:  $(3x+2)(2x-3)$   
 $= 6x^2 - 9x + 4x - 6$   
 $= 6x^2 - 5x - 6$