

### 7.3 Mixed Factoring - Day 3

- \* GCF
- \* DIFF
- \* LOIF

Examples:

1.  $x^2 - 49x$

GCF  
 $x(x-49)$

2.  $121y^2 - 64$

DIFF  
 $(11y-8)(11y+8)$

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3.  $a^2 + 11a + 30$   
positives same sign  
 $P=30$   
 $S=11$   
 $(a+5)(a+6)$

5.  $n^2 + 10n + 21$   
positives same sign  
 $P=21$   
 $S=10$   
 $(n+7)(n+3)$

7.  $m^2 + 3m - 28$   
bigger # is + different signs  
 $P=-28$   
 $S=3$   
 $(m-4)(m+7)$

4.  $x^2 - 11x + 18$   
negative same sign  
 $P=18$   
 $S=-11$   
 $(x-2)(x-9)$

6.  $x^2 - 2x - 63$   
bigger # is - different signs  
 $P=-63$   
 $S=-2$   
 $(x+7)(x-9)$

8.  $y^2 - 18y - 40$   
bigger # is - different signs  
 $P=-40$   
 $S=-18$   
 $(y+2)(y-20)$

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9.  $5x^2 - 17x + 6$   
same sign  
start → Prime  
 $(5x-2)(x-3)$

10.  $8y^2 - 30y + 7$   
same sign  
start → Prime  
 $(4y-1)(2y-7)$

\* have to check with FOIL  
 $5x^2 - 15x - 2x + 6$  ✓

check  
 $8x^2 - 28y - 2y + 7$  ✓

11.  $3n^2 + 32n + 20$   
start Prime  
same sign  
 $(n+10)(3n+2)$

12.  $2a^2 + a - 15$   
start Prime  
different signs  
 $(2a-5)(a+3)$

check  
 $3n^2 + 2n + 30n + 20$  ✓

check  
 $2a^2 + 6a - 5a - 15$  ✓

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## HOMWORK

Worksheet HW 7.3 - Mixed Factoring 3

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