

# MIXED PRACTICE

ex: Factor

pos

a)  $x^2 - 9$

$$(x+3)(x-3)$$

b)  $x^2 - 2x - 63$

$$(x-9)(x+7)$$

$$\begin{array}{r} -63 \\ \frac{x}{+7} \quad \frac{x}{-9} \end{array} \leftarrow$$

# MIXED PRACTICE

ex: Factor

*no gcf for all 4 terms*

c)  $2x^3 - 3x^2 + 10x - 15$  "grouping"

$$(2x^3 - 3x^2) + (10x - 15)$$

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

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

d)  $y^2 - 17y + 70$

$$(y - 10)(y - 7)$$

$$+70 \left( \frac{y}{-7} - \frac{y}{-10} \right)$$

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ex: Factor

e)  $5x^2 - 5$

$\sqrt{1} = 1$

$5(x^2 - 1)$   
acF  
DoS

$5(x+1)(x-1)$

f)  $h^2 - 12h - 64$

$(h-16)(h+4)$

$$\begin{array}{r}
 -64 \leftarrow \\
 1 \quad 64 \\
 2 \quad 32 \\
 +4 \quad -16 \\
 \hline
 4 \overline{) 64} \\
 \underline{4} \phantom{0} \\
 24 \\
 \underline{-24} \\
 0
 \end{array}$$

# MIXED PRACTICE

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g)  $5n^2 - 10n - 15$

<sup>gcf</sup>  $5(n^2 - 2n - 3)$

$5(n - 3)(n + 1)$

⊕ NOT completely factored:

$(\underline{5}n - \underline{15})(n + 1)$

or

$(n - 3)(\underline{5}n + \underline{5})$

$-3$   
 $+1$   $-3$

h)  $x^2 + 9$

**Prime**

Sum of squares  
does not factor!

# MIXED PRACTICE

ex: Factor

$$1) x^2 - 4x + 7$$

+ 7

1 7

X

Prime

$$1) \underline{x^3 + 4x^2} - \underline{25x - 100}$$

$$\underline{x^2(x+4)} - \underline{25(x+4)}$$

$$(x+4)(x^2 - 25)$$

DO5

$$(x+4)(x+5)(x-5)$$

## MIXED PRACTICE

ex: Factor

k)  $x^2 - 4x$

$$x(x-4)$$

l)  $h^2 - 15h + 50$

$$(h-10)(h-5)$$

## MIXED PRACTICE

ex: Factor

$$m) x^4 + 2x^2 - 8 = (x^2 + 4)(x^2 - 2)$$