

Name: Key

Determine which factoring method to use, then factor:

1) $16x^2 - 81$

Is there a GCF? No

Which method? diff. of perfect squares

Factor:

$(4x+9)(4x-9)$

2) $x^2 + 16x - 80$

Is there a GCF? No

Which method? Short abc

Factor:

$(x+20)(x-4)$

$$\begin{array}{r|l} -80 & 16 \\ \hline 8, 10 & \\ 20, -4 & \end{array}$$

3) $16m^3 + 250$

Is there a GCF? Yes: 2

Which method? GCF, Sum of perfect cubes

Factor:

$2(8m^3 + 125)$
 $2(2m+5)(4m^2 - 10m + 25)$

4) $5x^2 + 2x - 7$

Is there a GCF? No

Which method? Long abc

Factor:

$5x^2 + 5x - 7x - 7$
 $5x(x+1) - 7(x+1)$
 $(5x-7)(x+1)$

$$\begin{array}{r|l} -35 & 2 \\ \hline -7, 5 & \end{array}$$

5) $4m^2n + 6m - 14mn - 21$

Is there a GCF? No

Which method? grouping

Factor:

$4m^2n + 6m - 14mn - 21$
 $2m(2mn+3) - 7(2mn+3)$
 $(2m-7)(2mn+3)$