

3.4: Mixed Factoring Examples

Ex 1) Factor: $\frac{4x^2}{4} - \frac{16}{4}$ GCF: 4

$4(x^2 - 4)$ ← difference of squares

$\sqrt{x^2} = x$ $\sqrt{4} = 2$

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

Ex 2) Factor: $\frac{-6m^2}{-2} - \frac{26m}{-2} + \frac{20}{-2}$ GCF: -2

$-2(3m^2 + 13m - 10)$

* $-2\left(\frac{3m^2}{3m} + \frac{15m}{3m} - \frac{2m}{1} - \frac{10}{-2}\right)$

$3m(m+5)$ $-2(m+5)$

$-2(3m-2)(m+5)$

$3m^2 \cdot -10$
 $-30m^2$
 $15m \wedge -2m$

Ex 3) Factor: $\frac{125x^3}{x} + \frac{8x}{x}$ GCF: x

$x(125x^2 + 8)$