

Do Now: Factor $2x^2 + 5x + 2$

$M=4$ $C=5$
 $\boxed{1, 4}$
 $2, 2$

$$\begin{array}{c|c} \frac{2x^2}{2x} + \frac{4x}{2x} & \frac{+1x}{1} \quad \frac{+2}{1} \\ \hline 2x(x+2) & 1(x+2) \end{array}$$

↑ same ↑

$\boxed{(2x+1)(x+2)}$

AIM: FACTORING "HARD" TRINOMIALS-Day 2

Factor the following:

1. $3x^2 - 13x + 10$

$M=30$ $C=-13$
 $1, 30$
 $2, 15$
 $\boxed{3, 10}$
 $5, 6$

$$\begin{array}{c|c} \frac{3x^2}{x} - \frac{10x}{x} & \frac{-3x}{-1} \quad \frac{+10}{1} \\ \hline x(3x-10) & -1(x-10) \end{array}$$

↑ same ↑

$\boxed{(x-1)(3x-10)}$

$$M = 8 \quad c = 9$$

$$\begin{array}{r} \boxed{118} \\ 214 \end{array}$$

2. $4x^2 - 9x + 2$

$$\frac{4x^2}{4x} - \frac{8x}{4x}$$

$$\frac{-1x}{-1} + \frac{2}{-1}$$

$$4x(x - 2)$$

$$-1(x - 2)$$

↑ same ↑

$$\boxed{(4x - 1)(x - 2)}$$

3. $6x^2 + 11x - 2$

$$\frac{6x^2}{6x} + \frac{12x}{6x}$$

$$\frac{-1x}{-1} - \frac{2}{-1}$$

$$6x(x + 2)$$

$$-1(x + 2)$$

↑ same ↑

$$\boxed{(6x - 1)(x + 2)}$$

$$M = 12 \quad c = 11$$

$$\begin{array}{r} \boxed{112} \\ 216 \\ 314 \end{array}$$

$$4. 3x^2 - 5x - 2$$



$$\begin{array}{r|rr} 3x^2 - 6x & +1x - 2 \\ \hline 3x & 3x & 1 & 1 \end{array}$$

$$3x(x-2) \quad | \quad 1(x-2)$$

↑ same ↑

$$\boxed{(3x+1)(x-2)}$$

$$M=6 \quad c=-5$$

$$\boxed{1, 6}$$

$$2, 3$$

$$5. 10x^2 - 9x + 2$$



$$\begin{array}{r|rr} 10x^2 - 5x & -4x + 2 \\ \hline 5x & 5x & -2 & -2 \end{array}$$

$$5x(2x-1) \quad | \quad -2(2x-1)$$

↑ same ↑

$$\boxed{(5x-2)(2x-1)}$$

$$M=20 \quad c=-9$$

$$1, 20$$

$$2, 10$$

$$\boxed{4, 5}$$

6. $2x^2 + x - 3$

$M=6$ $C=1$

$\frac{1}{6}$
 $\frac{2}{3}$

$$\frac{2x^2}{x} + \frac{3x}{x} \quad | \quad \frac{-2x}{-1} - \frac{3}{-1}$$

$$x(2x+3) \quad | \quad -1(2x+3)$$

↑ same ↑

$(x-1)(2x+3)$