

Warm - Up
2/21/10

Factor $12k^2 - 32k$ completely

$$\begin{aligned} 12k^2 &= 4 \cdot 3 \cdot k \cdot k & \frac{4k(3k) - 4k(8)}{4k(3k) - 4k(8)} \\ 32k &= 4 \cdot 8 \cdot k & \frac{4k(3k - 8)}{\text{GCF}} \end{aligned}$$

Quiz Retake Deadline
next Thu, Feb. 28th

- IF after school \implies 312 or media
- Lunch
 - 1st Lunch (017)
 - 2nd or 3rd (106D)

P. 85

Factoring out the GCF

2/21/19

1. Identify the GCF of all your terms.
2. Rewrite each term as a product using the GCF as one of the factors.
3. Factor out the GCF

Factor $6x^3 - 15x^2 + 3x$ completely

$$\text{GCF} = 3x$$

$$\begin{aligned} 6x^3 &= 2 \cdot \underbrace{3}_{\text{GCF}} \cdot x \cdot x \cdot x \\ 15x^2 &= 5 \cdot \underbrace{3}_{\text{GCF}} \cdot x \cdot x \\ 3x &= 1 \cdot \underbrace{3}_{\text{GCF}} \cdot x \end{aligned}$$

$$\underline{3x(2x^2)} - \underline{3x(5x)} + \underline{3x(1)}$$

$$3x(2x^2 - 5x + 1)$$

$$6x^3 - 15x^2 + 3x$$



Factor $12p^3 + 8p^2 + 20p$ completely

$$\underline{4p}(\quad) + \underline{4p}(\quad) + \underline{4p}(\quad)$$

$$4p(3p^2 + 2p + 5)$$

Handwritten prime factorization of the coefficients:

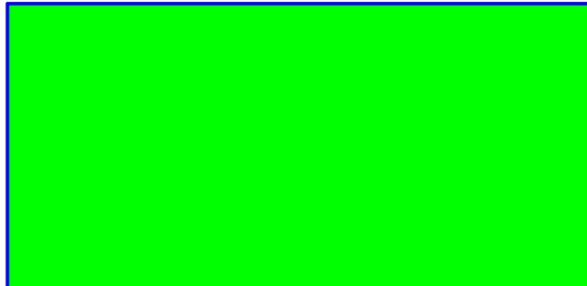
$$12 = 2 \cdot 2 \cdot 3$$
$$8 = 2 \cdot 2 \cdot 2$$
$$20 = 2 \cdot 2 \cdot 5$$
$$p = p \cdot p \cdot p$$

Factor $7p^4 + 2p^2$ completely

$$\text{GCF} = p^2$$

$$p^2(7p^2) + p^2(2)$$

$$p^2(7p^2 + 2)$$



Factor $12x^7 - 4x^4 + 6x^3$ completely

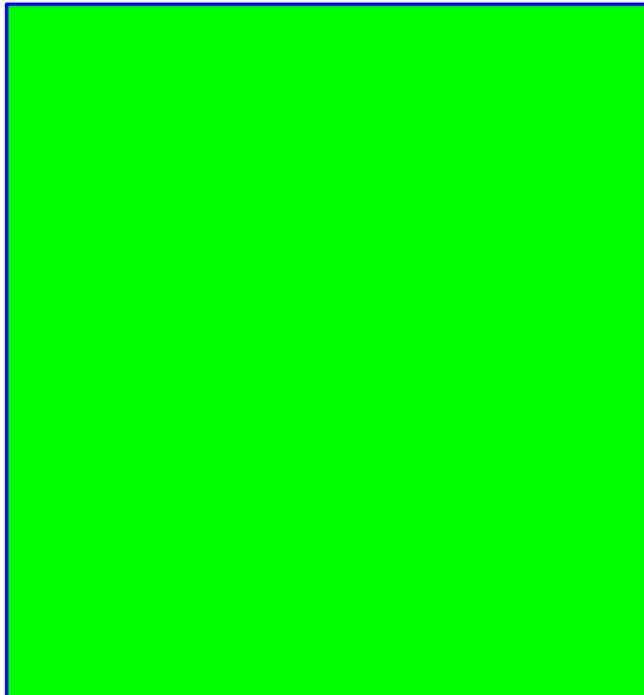
$$12x^7 = 2 \cdot 2 \cdot 3 \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$$

$$4x^4 = 2 \cdot 2 \cdot x \cdot x \cdot x \cdot x$$

$$6x^3 = 2 \cdot 3 \cdot x \cdot x \cdot x$$

$$\text{GCF} = 2x^3 \quad 2x^3(6x^4 - 2x + 3)$$

Factor $48k^4 - 12k^3 + 24k^2$ completely



Homework (due Tue Feb. 26th)

p.85 (6 - 10)

p.86 (11-20)