

Greatest Common Factor

GCF

12 and 36

$$12 = 1, 12, 6, 2, 3, 4$$

$$36 = 6, 6, 9, 4, 1, 36$$

$$12 = 12, 3, 18, 2$$

x^3 and x^5

$$x^3 = x \cdot x \cdot x$$

$$x^5 = x \cdot x \cdot x \cdot x \cdot x$$

x^3

Rule for GCF if it is a variable

x^6 and x^4

$$x^6 = x x x x x x$$

$$x^4 = x x x x$$

x^4

$$x^{112} \quad x^{101} \quad x^5 \quad x^8 \quad x^5$$

$$1. \frac{p^2 - 3p}{p} = p(p - 3)$$

$$2. \frac{v^2 + 10v}{v} = v(v + 10)$$

~~$\frac{v \cdot v}{4}$~~

$$3. \frac{v^2 - v}{v} = v(v - 1)$$

$$9. \quad 28a^3 + 16a^2 = 4a^2(7a + 4)$$

The handwritten solution shows the original expression with $4a^2$ circled under each term. The final factored form is enclosed in a blue box.

$$14. \quad \frac{4x^3}{x} + \frac{3x^2}{x} + \frac{3x}{x} = x(4x^2 + 3x + 3)$$

The handwritten solution shows the original expression with a green box around the numerator and blue lines under each denominator. The final factored form is enclosed in a blue box. Green arrows point from the terms in the parentheses back to the x factor.

$$4x^3 + 3x^2 + 3x$$