

Practice Problem Set

ANSWER KEY

Factor each polynomial expression by factoring out the GCF.


1. $10x^2 - 60$ **GCF: 10**

$$\frac{10x^2}{10} - \frac{60}{10}$$

$$1x^2 - 6$$

Factored Form: $10(x^2 - 6)$

Check


$$10(x^2 - 6) = 10x^2 - 60 \quad \checkmark$$


2. $8x^2 + 16x - 40$ **GCF: 8**

$$\frac{8x^2}{8} + \frac{16x}{8} - \frac{40}{8}$$

$$1x^2 + 2x - 5$$

Factored Form: $8(x^2 + 2x - 5)$

Check


$$8(x^2 + 2x - 5) = 8x^2 + 16x - 40 \quad \checkmark$$


3. $14x^2 - 28x - 7$ **GCF: 7**

$$\frac{14x^2}{7} - \frac{28x}{7} - \frac{7}{7}$$

$$2x^2 - 4x - 1$$

Factored Form: $7(2x^2 - 4x - 1)$

Check


$$7(2x^2 - 4x - 1) = 14x^2 - 28x - 7 \quad \checkmark$$

IMPORTANT NOTE:

An expression is **factored completely** when the first factor in the product is the GCF.

Let's go back to example #1 on this page.

$10x^2 - 60$ can be written in factored form as $5(2x^2 - 12)$. However, the expression was NOT factored completely because 5 is NOT the GCF.

The **complete factored form** of $10x^2 - 60$ is $10(x^2 - 6)$ because 10 is the GCF.