

# Factoring

# DAY 2

Factor the difference of two squares (DOTS) with the formula:  $A^2 - B^2 = (A + B)(A - B)$

|               |              |
|---------------|--------------|
| 1. $1 - 9x^2$ | 2. $x^4 - 1$ |
|---------------|--------------|

Factor with two variables.

|                         |  |
|-------------------------|--|
| 3. $6x^2 + 13xy - 5y^2$ | 1. Factor normally without the "y"<br>2. Put the "y" in at the end |
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Factor like a quadratic.

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|-----------------------|---------------------|
| 4. $4 - 14x^2 - 8x^4$ | 5. $x^6 + 2x^3 + 1$ |
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Simplify.

|   |   |
|---|---|
| 6. $\frac{(2x-5) \cdot 3x^2 - x^3 \cdot 2}{(2x-5)^2}$ | 7. $3x^2(3x+4)^2 + x^3 \cdot 2(3x+4) \cdot 3$ |
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## FACTORING OUT THE GCF

Factor each expression completely.

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|---|---|
| <p>1. <math>5(2x+1)^2 + (5x-6) \cdot 2(2x+1) \cdot 2</math></p> <p>2. <math>3(4x+5)^2 \cdot 4(5x+1)^2 + (4x+5)^3 \cdot 2(5x+1) \cdot 5</math></p> | <p>Step 1: Underline each term<br/>(separated by + and -)</p> <p>Step 2: Simplify each term<br/>(do not distribute)</p> <p>Step 3: Find the GCF</p> <p>Step 4: Factor out the GCF<br/>(divide and multiply)</p> <p>Step 5: Simplify</p> |
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## PRACTICE

Factor out the GCF.

|   |   |
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| <p>3. <math>3x^2(8x-3) + x^3 \cdot 8</math></p> | <p>4. <math>4(x+5)^3(x-1)^2 + (x+5)^4 \cdot 2(x-1)</math></p> |
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